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FAA Aviation News

AVIATION SAFETY FROM COVER TO COVER

Cover Story:

KEEPING SAFE IN THE DESERT

U.S. Department
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FRONT COVER: A Saratoga *in flight. (photo courtesy of the manufacturer)*

BACK COVER: A Mooney *against a summer sunset. (photo courtesy of the manufacturer)*

KEEPING SAFE IN THE DESERT

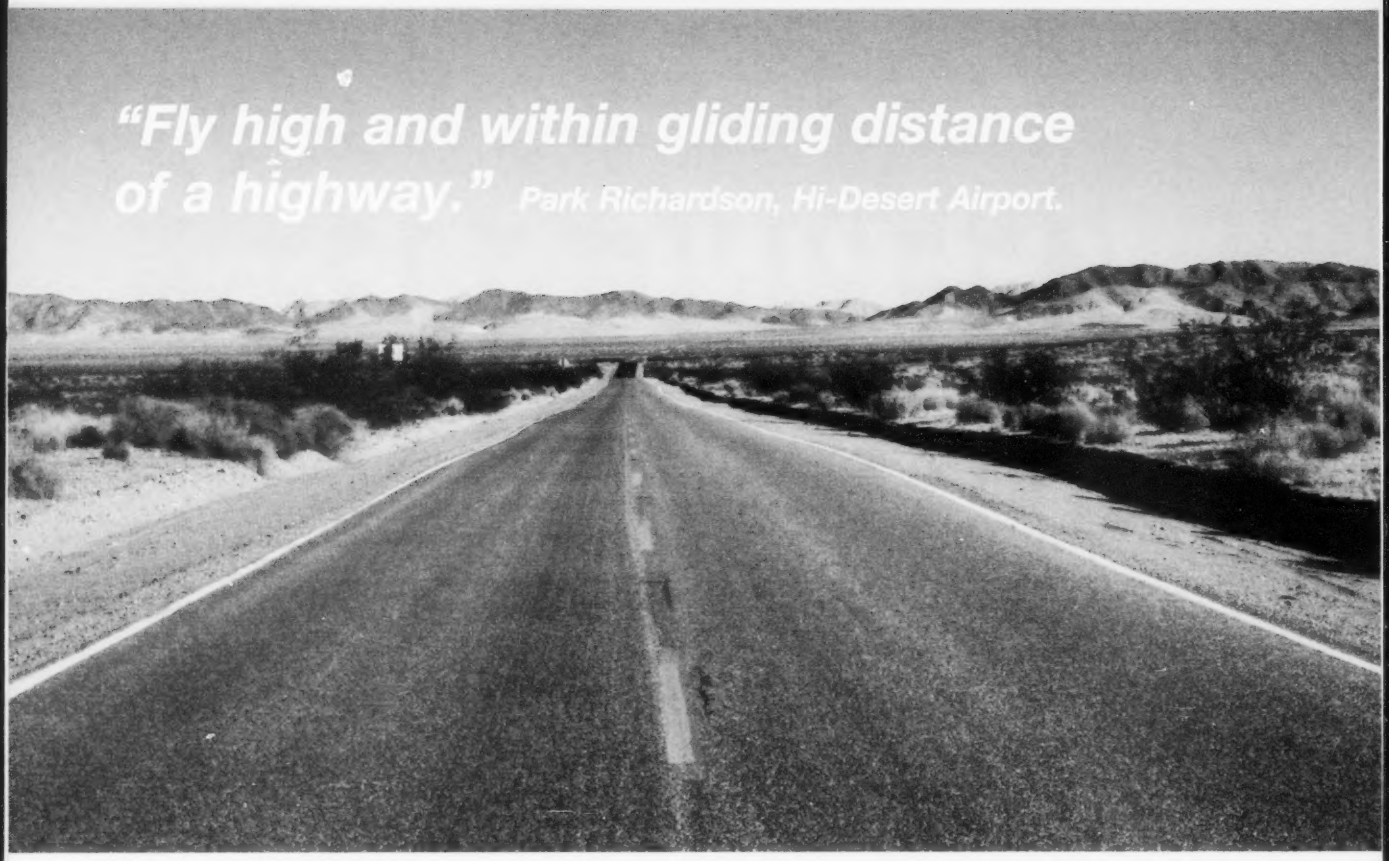
story and photos by H. Dean Chamberlain

As the hottest months of summer approach, you and your passengers flying over isolated desert areas in the U.S. need to review your options when operating over such areas. How you operate can be a matter of survival if you are not prepared to spend a day or two in the desert. So, what is the secret of surviving in the 21st Century American desert?

Surprisingly, many of the same things learned from the last century and the previous centuries still apply only now updated for aviation. Proper planning, good route selection, water, an activated flight plan, an aircraft frequency transceiver, and a cell phone or satellite phone are all good ideas for starters. There are more things you should consider most of which are based upon good, basic common sense and tried and true survival ideas.

The intent of this article is not to make you a desert expert or long-term desert survivor. Our goal is to simply remind any pilot planning on flying over any of the remote areas of the American West of the potential risks and dangers that await the unprepared and to offer some suggestions on how to reduce the risk of flying over that terrain.

THE PAPER AND INK USED IN THE ORIGINAL PUBLICATION MAY AFFECT THE QUALITY OF THE MICROFORM EDITION.



A QUICK NOTE ABOUT CELL PHONES, TELEPHONES AND PAGERS

If you carry a cell phone for emergency purposes, you should review your service's geographic signal coverage area for the part of the country you will be flying over. In some remote areas, cell phones are not usable. In other areas, your cell phone service provider's operating area may only extend along major highways or near major cities. You may be so remote that your cell phone can't "roam" as well. Such things as your cell phone service provider and type of cell phone are all factors. Even the type of cell phone such as digital or analog, or whether it is a dual or tri band cell phone all help determine your area of coverage.

Unlike cell phones, which depend upon ground based reception, satellite telephones can work anywhere they have one of their satellites in view. Satellite phone service can provide global service with the right equipment. The major problem with satellite phones is their cost.

In some cases, if you have the right type of two-way pager service, you might be able to send a message via your pager.

In real-life threatening situations, you should try to use whatever communications means you have including your aircraft radio if there is no danger of fire or explosion. Even if you can't receive a message, there is always the chance your transmitted message might have been received by someone. As explained below, you should never give up hope. When sending any message in the blind, always remember to include your location, name, and aircraft number. The number of people with you and their status are also important. Because hi-tech items and batteries can fail, you should consider alternative means of alerting.

A WORD ABOUT SURVIVAL KITS

Although search and rescue experts always include in their safety discussions the importance of carrying a survival kit, how many pilots really do carry one in their aircraft? How many pilots even carry the generally recognized 10 essential survival items on their person when they go hiking, walking, or traveling off the beaten path? If you are one of those who do carry a survival kit, when was the last time you inspected it? Are the materials and supplies still good? Or, did they dry out and expire five years ago? Is your medical kit current? Is your water—you do have some water in your kit—still drinkable?

In addition to water, survival kits should be site-specific and based upon time of year, the anticipated environmental conditions, and anticipated time of rescue. Some items are generic. For example, waterproof matches are waterproof matches. But the dry heat and cold of an American desert requires different items than the wet and cold areas of say the Pacific Northwest. Each environment requires specific items for comfortable survival. Remember that we are talking comfortable survival because we

are aviators and can carry such items. We are not hikers limited by what we can carry on our backs. We can take what we need. Plus, if you do everything right, you may not have to use your survival items.

BROKEN EGGS IN YOUR BASKET

Water containers are like the story about putting all of your eggs in one basket. If your aircraft's "survival" water container is the thin, plastic one-gallon jug you bought at your corner grocery store on the way to the airport, maybe you need something else to carry your water in when you go aviating in your Mark I Family Cruiser. At the impact forces generated in an aircraft crash, even if you survive, will your gallon of water survive if it goes bouncing around? It probably will not. It could also hit you. A gallon of water could do a lot of damage to both you and your aircraft. But, if you had bought a six- or eight-pack of water in the small one liter or similar size bottles, maybe one or two or more of those smaller bottles might survive. Unlike your one-gallon container, if one of the smaller bottles breaks, all of your water will not be lost. Pilots may need to learn how to protect their "basket of eggs."

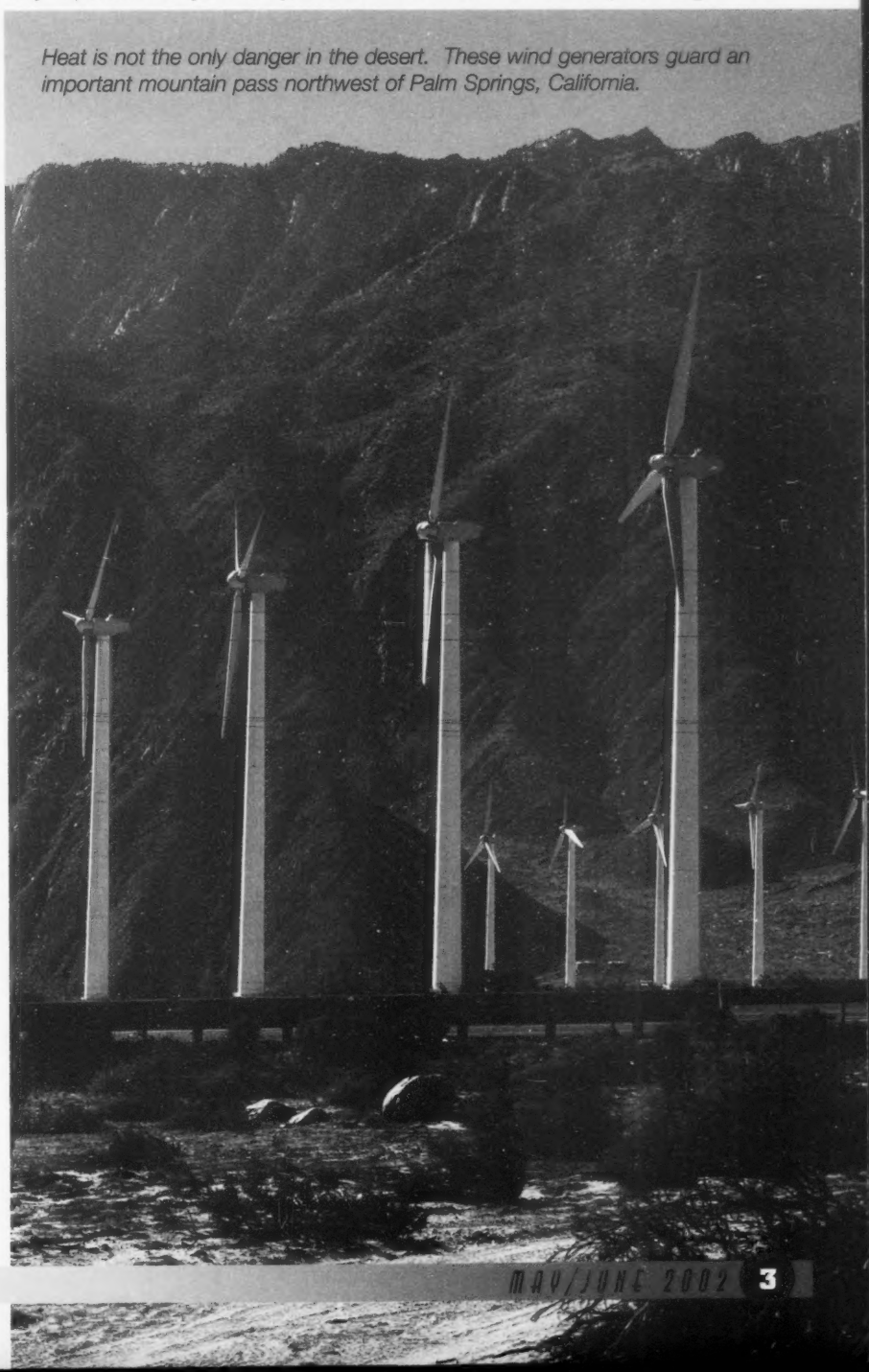
IMPORTANCE OF FLIGHT PLANS: CHEAP INSURANCE

Before we get too deep into desert flight, no safety review would be complete without reminding everyone of the importance of filing and activating a flight plan before every trip. If the flight plan is a VFR flight plan, VFR flight plans must be opened and closed by the pilot. IFR flight plans are normally opened and closed by air traffic control.

For this article, we are talking about VFR flight plans. Both types of flight plans do two important things for safety.

First, they show route of flight. If you give updated position reports or are in radar contact, the flight plan and position reports narrows the search area along your designated route in case you fail to arrive at your destination. The smaller the search area, the more resources that can be dedicated to look for you. Even an entire route search is better than not knowing what state the crash site might be in. Just remember the smaller the search area, the greater the probability of discovery and recovery. This is particularly important if anyone is injured and needing immediate medical care.

Second, flight plans provide a positive means of alerting and validating search and rescue about a missing aircraft. In the safety business, there are stories about VFR aircraft not being missed for days after a crash because no one knew the aircraft was missing. No flight plan had been filed, and the pilot was not expected back home for several days or longer. The



Heat is not the only danger in the desert. These wind generators guard an important mountain pass northwest of Palm Springs, California.

old cliche of out of sight, out of mind applies. Flight plans give you the best chance of being found. Remember that 30 minutes after your VFR filed or updated expected arrival time and you have not closed your flight plan, FAA starts its preliminary search notification process.

Combine a flight plan with its alerting benefits and a functioning emergency locator transmitter (ELT), preferably a 406 MHz ELT (one with GPS is better), and you have a good alerting system. So you can just sit back and relax until help arrives? Not quite.

ELT RESPONSE TIMES: THE GOOD AND THE BAD

Remember, we said an activated flight plan and ELT were good. But is good—good enough? Let's review what happens in an aircraft accident without an activated flight plan. In this scenario, like in many cases, the first notification of a possible crash is an ELT signal. However, having an ELT onboard is not a guarantee that someone knows you are down. The ELT could have been damaged in the accident and cannot function, or the crash forces may not have been hard enough to activate the device. This is why it is important to try to monitor the ELT on your aircraft's radio or your handheld transceiver on 121.5 MHz when possible and when it can be done safely without risking a fire or explosion from spilt fuel.

In a situation where the ELT works as designed, the problem is, in the case of a 121.5 MHz only ELT alert with no flight plan on file, it can be many hours before search and rescue efforts are launched. The delay is because of the many false alerts the satellite rescue system receives. Without an FAA report of a missing aircraft, the satellite folks wait for multiple alerts or "hits" to try and validate the distress alert before deciding if it is a real alert and not some random signal. Once they determine it is a real alert, which may or may not signal an aircraft accident, they notify the appropriate national rescue coordination center (RCC) which then decides on the appropriate course of action. All of this can take many hours. What this means to you is that you may have to survive your injuries or the local environmental conditions for hours before someone even starts to look for you.

If you want to speed up the search process, you may want to buy one of the newer digitally encoded 406 MHz ELT's. Not only does the 406 MHz ELT transmit with more power, if properly registered with the owner's data on file at the National Oceanic and Atmospheric Administration (NOAA) Mission Control Center (MCC), rescue forces can be launched as soon as NOAA receives the signal and the appropriate organization calls the emergency telephone numbers included in the registration data and validates the distress alert. Thus, search action can be started in minutes instead of hours in the case of the older 121.5 MHz only ELT.

121.5 MHz SATELLITE MONITORING PHASEOUT

In 2009, the satellite monitoring of 121.5 MHz distress alerts is scheduled for termination. Once that happens, 121.5 MHz ELT distress alerts will only be monitored by over-flying aircraft or nearby air traffic control (ATC) facilities. What this means is no over-flights or nearby ATC facilities: no detection. If your aircraft's ELT is a 121.5 MHz only model, you could be waiting a lot longer for rescue. Flight plans will become critical in 2009 for distress alerting unless you equip your aircraft with a 406 MHz ELT. The rescue distress alerting satellite system will continue to monitor for 406 MHz ELT's and other 406 MHz distress-alerting devices.

DESERT FLYING

Desert survival means two things to *FAA Aviation News*. First is surviving your flight. The second is surviving your off-airport landing (crash) until help arrives.

Having lived and flown in the desert southwest corner of Arizona and the adjoining southeastern portion of California for several years and having flown searches for missing aircraft as well as talking to others who routinely flew in that area, I can say without reservation that safe desert flying begins with good planning.

HOW HOT IS HOT?

As we go into the summer flying season, it is time for those planning on flying in desert areas to start to think about flying and surviving in "desert country." The reason is simple. It is common for daytime temperatures in some of the western deserts to range from 100 to 115 degrees Fahrenheit in the shade. Temperatures can exceed 125 degrees or more in the sun. Then temperatures can drop significantly overnight. For those who live and fly in such conditions, they know how to handle the "what if" scenarios that can possibly happen on any given flight. But like in mountain flying, the problem is not those who live and fly there. The problem is those who don't live there but who want to visit or who must over fly the area to go someplace else.

AIRCRAFT PERFORMANCE AND TRICKS OF THE TRADE IN THE DESERT

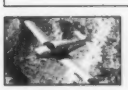
As Mr. Park Richardson, owner of Hi-Desert Airport, Joshua Tree, California, which is in the high desert area about 110 nautical miles NE of Los Angeles International Airport, reminded me in February, there are good times to fly in the desert and bad times. He told of pilots flying though his airport, elevation 2,464 feet MSL, in the summer who could not understand why their aircraft were not flying "just quite right." The fact it was summer, very hot, and the aircraft were loaded near gross weight might have had something to do it. He said that in many cases the problem was the

PERIOD OF RECORD MONTHLY CLIMATE SUMMARY

The following data highlights, for the years indicated, the average maximum and the average minimum temperatures for select areas of the American West. The data shows the type of temperatures one can expect either flying through the area or must be prepared for in the event of an off-airport landing.

	DEATH VALLEY, CA (4/61 - 12/2002)		LAKE HAVASU CITY, AZ (3/91 - 9/2000)		GILA BEND, AZ (12/1892 - 12/2000		EL CENTRO, CA (7/48 - 12/2002)		TWENTYNINE PALMS, CA (7/48- 12/2000)		LAS VEGAS, NV (2/37 - 12/2000)		SALT LAKE CITY, UT (7/48 - 12/2000)	
	AV HIGH (°F)	AV LOW (°F)	AV HIGH (°F)	AV LOW (°F)	AV HIGH (°F)	AV LOW (°F)	AV HIGH (°F)	AV LOW (°F)	AV HIGH (°F)	AV LOW (°F)	AV HIGH (°F)	AV LOW (°F)	AV HIGH (°F)	AV LOW (°F)
JAN	65.9	39.1	67.3	44.8	68.8	38.5	69.6	39.9	62.9	35.5	56.8	33.8	37.4	20.2
FEB	73.6	46.1	72.7	48.7	73.7	41.7	74.3	43.6	68.2	38.9	62.6	38.5	43.7	24.8
MAR	80.9	53.7	79.9	53.0	79.7	46.0	79.2	47.4	74.0	42.8	69.3	43.6	52.4	31.5
APR	89.7	61.4	89.1	59.6	88.0	51.6	86.4	52.7	82.2	49.3	78.2	51.1	61.5	38.0
MAY	99.2	71.2	98.3	69.7	96.6	59.4	94.4	59.4	90.8	56.8	88.1	60.2	71.9	46.1
JUN	108.8	80.2	107.3	76.9	106.0	68.0	103.6	67.1	100.5	64.8	98.4	69.1	82.9	54.3
JUL	115.1	86.9	112.3	84.6	108.9	77.9	107.6	75.2	105.3	71.5	104.4	75.7	92.4	62.5
AUG	113.6	85.1	111.8	85.4	107.1	76.6	106.4	75.6	103.4	70.4	102.1	74.2	90.3	61.3
SEP	105.6	75.1	104.5	77.3	103.0	69.8	102.1	69.2	97.3	63.6	94.6	65.8	79.5	51.2
OCT	92.8	61.4	92.1	62.6	92.1	57.0	91.7	58.3	85.9	52.5	81.4	53.7	65.8	40.0
NOV	76.2	47.6	75.6	50.5	78.5	45.0	78.5	46.6	71.9	41.6	66.4	41.3	50.1	29.7
DEC	65.2	38.1	65.6	43.6	69.2	38.7	69.8	39.6	63.3	35.4	57.5	34.3	38.6	22.1
ANNUAL	90.5	62.2	89.7	63.0	89.3	55.8	88.6	56.2	83.8	51.9	80.0	53.4	63.9	40.1

This data was extracted from the Internet through the Western Regional Climate Center, a Division of Atmospheric Sciences Desert Research Institute. The Western Regional Climate Center (WRCC) is one of six regional climate centers in the United States. The Regional Climate Centers Program is administered and funded by the National Oceanic and Atmospheric Administration (NOAA). The Desert Research Institute is an element of the University and Community College System of Nevada.



pilots had failed to compute density altitude. Density altitude is critical when operating in the summer in the deserts and mountains of the west. High temperatures and high elevations can spell trouble for those not prepared. As Richardson said, pilots need to know their aircraft's performance limitations.

As he pointed out, there are several things pilots can do to help themselves. The first is to compute density altitude and compare it to their aircraft's performance data. As he said, the secret is to know your aircraft's numbers.

He said, "Pilots can also plan to fly early in the morning or late at night if they are operating near their aircraft's gross weight. The cooler temperatures make for better performance and a smoother ride."

He said mid-day thermals boiling off the desert can make for a very rough ride at low altitude. Another option he said is for pilots to carry less weight in the aircraft. Again, this in-

TAKEOFF DISTANCE - SHORT FIELD

Cessna 172N

2,300 lbs., 2,100 lbs., and 1,900 lbs.

CONDITIONS:
Flaps Up
Full Throttle Prior to Brake Release
Paved, Level, Dry Runway
Zero Wind

NOTES:
1. Short field technique as specified in Section 4.
2. Prior to takeoff from fields above 3,000 feet elevation, the mixture should be leaned to give maximum RPM in a full throttle, static runup.
3. Decrease distances 10% for each 9 knots headwind. For operation with tailwinds up to 10 knots, increase distances by 10% for each 2 knots.
4. For operation on a dry, grass runway, increase distances by 15% of the "ground roll" figure.

WEIGHT LBS	TAKEOFF SPEED KIAS		PRESS ALT FT	0°C		10°C		20°C		30°C		40°C	
	LIFT OFF	AT 50 FT		GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS	GRND ROLL	TOTAL TO CLEAR 50 FT OBS
2,300	52	59	S.L.	720	1,300	775	1,390	835	1,490	895	1,590	960	1,700
			1,000	790	1,420	850	1,525	915	1,630	980	1,745	1,050	1,865
			2,000	865	1,555	930	1,670	1,000	1,790	1,075	1,915	1,155	2,055
			3,000	950	1,710	1,025	1,835	1,100	1,970	1,185	2,115	1,270	2,265
			4,000	1,045	1,880	1,125	2,025	1,210	2,175	1,300	2,335	1,400	2,510
			5,000	1,150	2,075	1,240	2,240	1,335	2,410	1,435	2,595	1,540	2,795
			6,000	1,265	2,305	1,365	2,485	1,475	2,680	1,585	2,895	1,705	3,125
			7,000	1,400	2,565	1,510	2,770	1,630	3,000	1,755	3,245	1,890	3,515
			8,000	1,550	2,870	1,675	3,110	1,805	3,375	1,945	3,670	2,095	3,990
2,100	50	56	S.L.	585	1,070	630	1,140	680	1,220	725	1,300	780	1,390
			1,000	640	1,165	690	1,245	740	1,330	795	1,420	850	1,520
			2,000	700	1,270	755	1,360	810	1,455	870	1,555	935	1,665
			3,000	770	1,390	830	1,490	890	1,595	855	1,710	1,025	1,830
			4,000	845	1,525	910	1,640	980	1,755	1,050	1,880	1,130	2,015
			5,000	930	1,680	1,000	1,805	1,075	1,935	1,155	2,075	1,240	2,230
			6,000	1,025	1,850	1,100	1,990	1,185	2,140	1,275	2,300	1,370	2,475
			7,000	1,130	2,050	1,215	2,210	1,310	2,380	1,410	2,560	1,515	2,755
			8,000	1,245	2,275	1,345	2,460	1,450	2,655	1,560	2,865	1,680	3,090
1,900	47	54	S.L.	470	865	505	920	540	985	580	1,045	620	1,115
			1,000	515	940	550	1,005	590	1,070	635	1,140	680	1,215
			2,000	560	1,025	605	1,095	645	1,170	695	1,245	745	1,330
			3,000	615	1,115	660	1,195	710	1,275	760	1,365	815	1,455
			4,000	670	1,220	725	1,305	780	1,400	835	1,495	895	1,595
			5,000	740	1,340	795	1,435	855	1,535	920	1,640	985	1,755
			6,000	810	1,470	875	1,575	940	1,690	1,010	1,810	1,085	1,940
			7,000	895	1,620	965	1,740	1,035	1,865	1,115	2,000	1,195	2,145
			8,000	985	1,790	1,065	1,925	1,145	2,065	1,230	2,220	1,320	2,385

Pilots need to review their aircraft's performance chart when taking off at airports above sea level and/or when the temperature is above standard.

creases the aircraft's performance. Pilots also need to review their intended airports of landing to make sure they can get into and out of the airport at the times they plan on operating in and out of the airport. Pilots should also compute their true airspeeds at the expected density altitude to verify their landing distance. Whether you are flying in the desert or landing at a high altitude mountain airport, density altitude is a critical factor when flying into both areas.

Pilots must also remember the risks of flying in ground effect on takeoff. Aircraft have plowed through fences and trees at the end of the runway when the aircraft could not climb out of ground effect because of operating at gross weight in high-density altitude situations. Long takeoff distances and lack of performances are all functions of high-density altitude. That is why Richardson said pilots have to know their aircraft's performance numbers.

SAFETY IN ALTITUDE

When asked about safety recommendations for anyone flying across a desert area, Richarson's answer was simple. He said, "Fly high and within gliding distance of a highway."

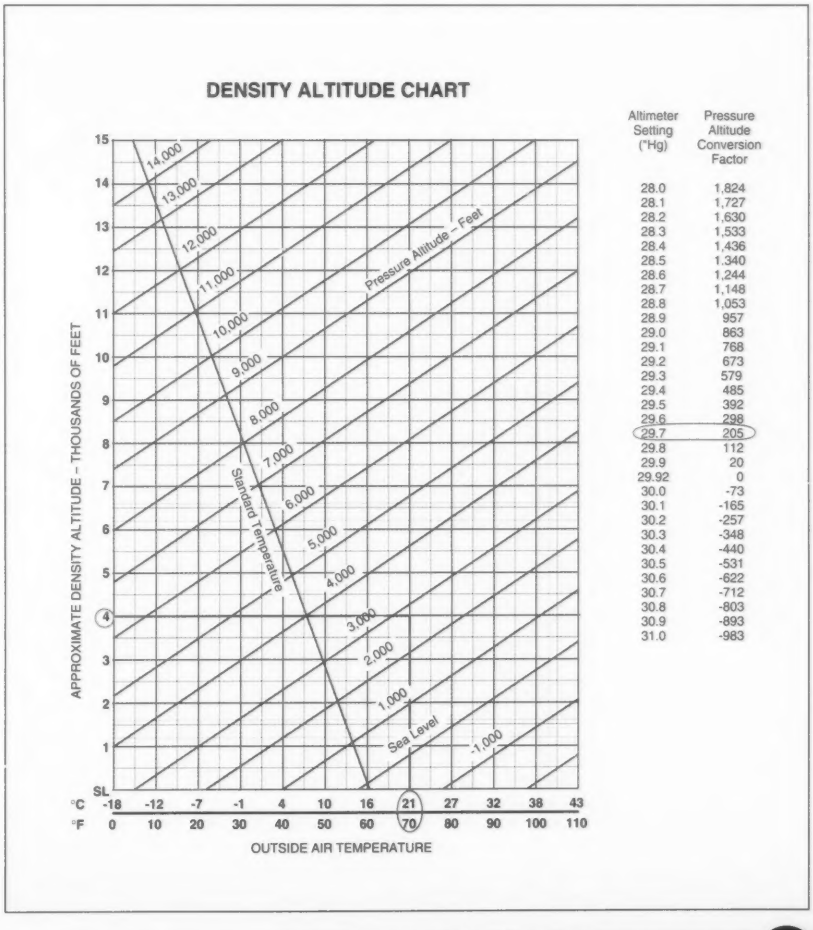
He has a good point as I discovered later. I wanted some desert photographs without any nearby power lines in the scenes so I drove past his airport, went through Twentynine Palms, and continued driving miles beyond the last telephone and electric poles strung along the two-lane highway east of Twentynine Palms. The road eventually goes to Nevada. What emphasized his point and got my attention was the sign I passed on the eastside of Twentynine Palms that said the next services were 100 miles away. Although the Twentynine Palms area had developed significantly in the 28 years since I was last there, I would not want to break down along the road out in that desert within that 100 mile area between services. I especially would not want to be out there in the heat of a mid-summer day. In such conditions, lots of water and shade to get out of the sun would become critical. I can tell you that as I drove along that desert road, I didn't count many cars passing me once I got beyond sight of the edge of town.

Although I could see a house here and there across the desert, it was not a place I would want to try walking across to get help. Although I was there in February and the temperature was cold, I would not have wanted to have to walk for help. People forget that a desert can be unbearably hot when the sun is shining, and cold at night. For example, Richardson's Hi-Desert Airport water fountain had ice floating in it late in the morning because the fountain was shaded.

Richardson's advice to fly high and within gliding distance of a highway is important for several reasons. First is the fact that you might be able to land on the highway. Although deserts look flat at altitude, they are not the best places to land on. Rough terrain, brush, and other vegetation can make for rough landings. By landing on or near a highway you increase your chances someone will drive by who can help you. Plus, it is easier (read cheaper) to get help to work on your downed aircraft or to recover your aircraft if you are near a road.

ADVICE FROM A SEARCHER

Richardson's airport is located in San Bernardino County which according to Sergeant Paul Howe of the San Bernardino Sheriff's Department is the largest county in the lower 48 states at 22,000 square miles. Howe is a lead pilot/chief pilot in the Department's Aviation Division. Among its many duties, the Division provides full-time search and rescue support in the county. He said the Division works closely with the national Air Force Res-



cue Coordination Center as well as with the local Civil Air Patrol on searches.

When asked about what advice he would offer to someone planning on flying through his county's desert areas, he emphasized two things. One is to use flight following. The second is to talk to someone before you get into trouble. Whether you talk to Flight Service or Air Traffic Control, he stressed the need to talk to someone.

The Sheriff's Department provides its own flight following for the Department's aircraft. When asked what kind of survival gear the aircraft carry, he said their survival kits include extra water, space blankets, first aid kits, and during the winter flares, matches, and candles among other items because of the desert cold.

When summarizing what pilots planning on flying across this area should be aware of, Howe said, "They need to be aware of the weather, particularly in the summer." He said local conditions can change suddenly. He noted the dangers of storms and the fact that many people don't realize how cold the desert can be during the winter.

ADVISE FROM ANOTHER PERSPECTIVE: ONE WHO TRAINS OTHERS

In discussing this article with Roger W. Brownlow, FAA Regional Safety Program Manager for the Western Pacific Region, who works out of the Riverside, California Flight Standards District Office, he referred me to several people and organizations in his area including the Sheriff's Department's Aviation Division that he thought could provide valuable insight into desert survival and operations. One person he said to contact was Mr. Denny Hoekstra, Director of Aviation, Mission Aviation Fellowship. According to Hoekstra, the Fellowship operates 65 aircraft flying in 20 countries. An important part of the organization's training program is its Aviation Operations Manual (AOM). As Hoekstra reported, "These procedures have been carefully thought out and practiced in survival training."

One important point he made was in their AOM, the survival kit is to be carried near the pilot and secured to the aircraft, so that it is always accessible even if the pilot is trapped or if a post-crash fire necessitates an immediate evacuation. He reported the medical kit is stored separately, though he noted, this will lessen your chances of escaping a fire with it. Because of the diverse terrain many of the pilots fly over, he said many pilots prefer to have a machete stored separately within reach of the pilot's seat.

The Fellowship aircraft also carry plastic covered, Immediate Action Placards that are kept in seat pockets or other visible places in the aircraft. The following is an example of one of the placards. Although the cards appear to be the same because they repeat certain information, they are different.

The value in the cards is they provide information to passengers who may not have had any survival training, and the cards are checklists for those who have had survival training.

Following the placard sample is a medical kit list of required items and a survival list of required items.

Hi-Desert Airport provides an oasis for pilots flying near Joshua Tree, California.

IMMEDIATE ACTION SURVIVAL LIST

Survival Aid: The following placard should be prepared in English and the official language of the country. It should be covered with plastic or other protective material and a copy kept within easy access of both front and rear seat passengers.

IMMEDIATE ACTION

STAY AWAY FROM THE AIRPLANE until the engine has cooled and spilled gas has evaporated.

CHECK INJURIES. GIVE FIRST AID. Make the injured comfortable. BE CAREFUL when removing injured people from the plane, PARTICULARLY WITH INJURED BACKS AND FRACTURES.

GET OUT OF THE WIND AND RAIN. Throw up a temporary shelter. IF YOU NEED A FIRE, START IT AT ONCE. In cold weather, make hot drinks.

GET SIGNALING EQUIPMENT READY. MAKE SURE THE EMERGENCY LOCATOR TRANSMITTER IS WORKING. (Use spare antenna if the normal one is in the mud, in thick foliage, or damaged.) Switch to manual operation. Set the plane's battery right side up so the fluid won't leak out. Disconnect it if it is shorted.

NOW—RELAX AND REST UNTIL YOU ARE OVER THE SHOCK OF THE CRASH. Leave extensive preparations and planning until later.

- -

After resting, organize the camp. Appoint individuals to specific duties. Pool all food and equipment in charge of one person. Prepare a shelter to protect yourself from rain, hot sun, snow, wind, cold, or insects. Collect all possible fuel, both wood and gasoline from the plane. Try to have at least a day's supply of fuel on hand. Look for a water supply. Look for animal or plant food. Remember that you can survive for weeks with no food, IF you have water.

Prepare signals; disturb your surroundings so that you will be recognized from the air. Collect oil from the plane for smoke signaling. Get the ELT up out of the trees, if possible. If you are in a hollow, set it up on a nearby ridge top. WHAT YOU DO MAY BE THE KEY TO YOUR RESCUE.

Check out the plane's radio. If it can be made usable, get it ready. Determine your position by the best means available and include this information in radio messages.

Salvage all items you can use from the plane and whatever cargo was aboard. Don't forget the aircraft compass if it isn't too badly damaged.

Start a logbook. Include the date and cause of crash; probable location; roster of personnel; inventory of food, water, and equipment; weather conditions; and other pertinent data. STAY WITH THE AIRPLANE UNTIL YOU ARE FOUND!

MEDICAL AND SURVIVAL CHECKLISTS

MAF REQUIRED MEDICAL/FIRST AID KIT

Adhesive tape (waterproof)
Antibiotic ointment (e.g., 3 in 1 First Aid Ointment™)
Antiseptic swabs (8) should contain Iodine
Band-Aids
Blood stopper bandages
Electrolyte tabs (20) (rehydration mix)
Gauze pads (10)
Gauze rolls
Heat bar
Insect repellent
Latex tourniquet
Lip balm/Sun screen
Liquid soap
Moleskin
Snake bite kit
Space blanket
Steri-Strip wound closures
Sun screen
Tongue blades
Triangular bandages (2)
Un-Aspirin™ (25 pkgs.) (acetaminophen)
Visine™ or equivalent (e.g., Liquid Tears™)
Water purification tabs
Water container
Waterproof matches

SIGNALING EQUIPMENT—MAF REQUIREMENT

Dye marker
Orange signal flag
Signaling mirror
VHF portable radio, with spare alkaline battery pack
Whistle

REQUIRED MISCELLANEOUS ITEMS

Compass
Disposable lighter
First Aid Book
Flashlight
Immediate Action Card
Swiss knife or pocket knife
USAF Survival Manual
NOTE: Some of the above items will have a shelf life.

SURVIVAL EQUIPMENT

Can Openers
Cook Stoves
Compass
Crash/Fire/Rescue Book
Emergency Blankets

Fire Extinguishers
First Aid Kits
Foam Pads
Insect Repellent
Life Preservers
Life Raft
Medical Supplies
Ration Packs
Signs/Labels
Survival Kits
Survival Tools

SIGNAL EQUIPMENT

Emergency Transmitter
Flare Gun
Flashlights
Megaphone

The placard sample and list of medical and survival items is provided for your review in case you have never thought of building your own survival kit. Hopefully, they will provide you with a starting point in designing a kit for your own use. The Internet is also a good source of information.

HOW FAR IS FAR?

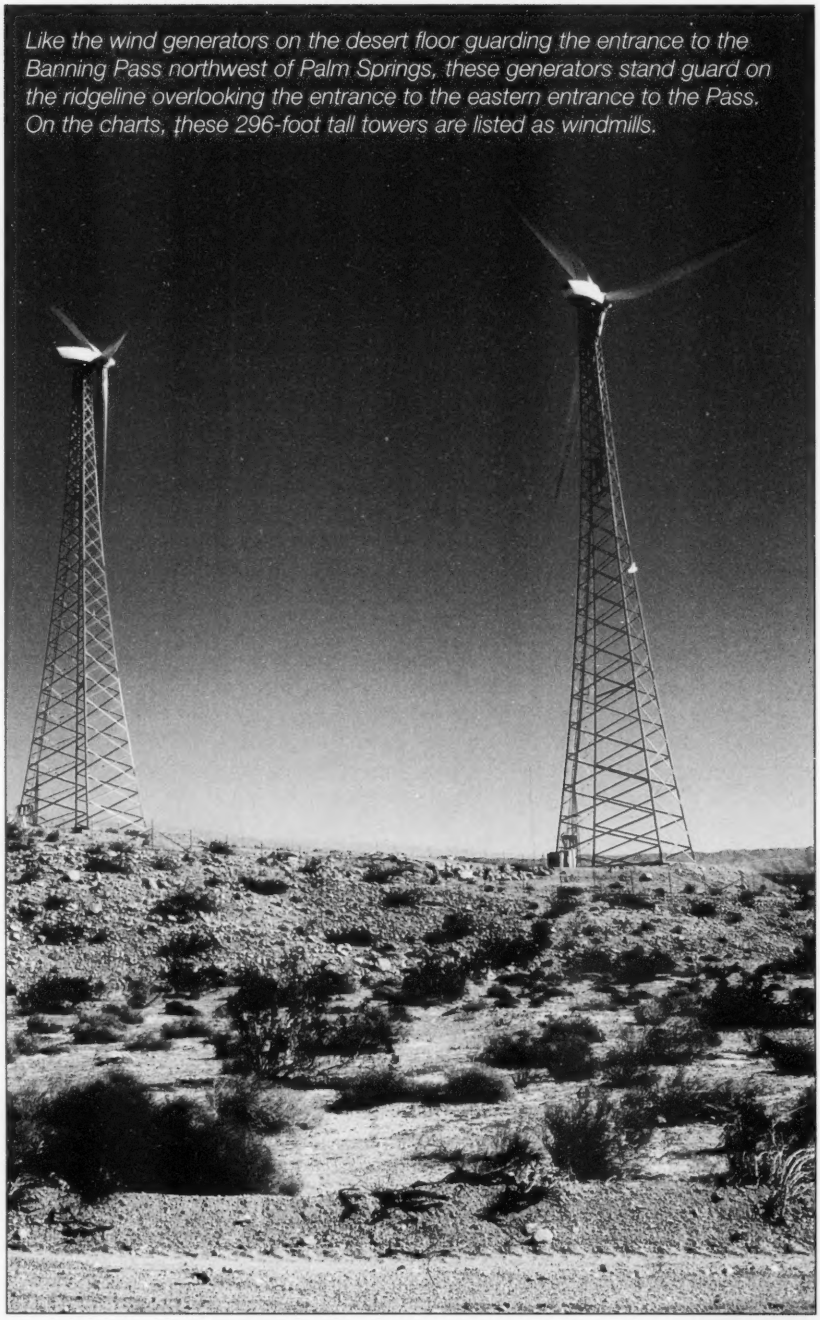
One of the most important lessons everyone needs to learn who has not lived or traveled in desert country is the fact that distances are deceiving in the desert. An object, hill, mountain, or building that looks only a few miles away and seemingly within walking distance can be 10, 20, 30, or more miles away. When 50 or 60 miles visibility is common, you can't trust your eyes to tell you how far something is. An accurate map and a known position are the only things you can trust.

Not only can you not trust your eyes to tell you how far something is away from you, you cannot trust your body to be able to walk very far in the desert. Between the heat and rough surface, you are not going to walk very far very fast. Plus, without adequate water and protection from the sun, the exertion from trying to walk across the desert would quickly dehydrate you and start your downward spiral to heat exhaustion, sunstroke, and possibly death.

The reality of that situation was brought home to me while talking with a military policeman at the Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center Twentynine Palms, California about my research for this article. He gave me his copy of the Command's *Ten Commandments of Survival in the Desert When Lost or Stranded.* Printed on a small, bright day-glow colored card designed to be carried in a wallet, these 10 commandments were written and issued to Marines after some Marines died in the desert while on a training exercise at the base years ago.

Whether you are a Marine or a pilot stranded in the desert, the following guidelines provide information that could help save your life.

Like the wind generators on the desert floor guarding the entrance to the Banning Pass northwest of Palm Springs, these generators stand guard on the ridgeline overlooking the entrance to the eastern entrance to the Pass. On the charts, these 296-foot tall towers are listed as windmills.



TEN COMMANDMENTS OF SURVIVAL IN THE DESERT WHEN LOST OR STRANDED

1. HOLD ON TO A SURVIVAL ATTITUDE. Your most valuable asset in any life-threatening situation is a positive mental attitude. If you aren't certain you can live, you will die.

2. STAY WHERE YOU ARE—STAY CALM. If you are driving a vehicle, remain with it. Relocate only to reach safety and water.

3. MOVE ONLY WHEN ABSOLUTELY NECESSARY AND ONLY AT NIGHT. If your position is unendurable, change your location during the cooler night hours. Move only when you know you can get there safely by doing the following:

   a. Leave a clear trail with notes and directional signs.
   b. On the note, give your name, date, time, direction, and reason you are going.
   c. Proceed in a specific direction; change your line of movement only after you have left a sign or marker.
   d. Go slowly and carefully—beware of overexertion.

4. CONSERVE YOUR SWEAT, NOT YOUR WATER. Rest by day; work on shelter and signals during cool of evening/morning. DRINK as often as you need water. Rub your body with urine and other liquids to keep cool.

5. PROTECT YOUR BODY. When in the sun and heat remember to:

   a. Keep your clothes on. Loosen, but do not remove them.
   b. Keep your boots/shoes and headgear on.
   c. Relax in deep shade, keeping your eyes protected from glare.
   d. If in the open with no shade nearby, use anything available to make shade.

6. MAKE A FUSS WHEN YOU HEAR OR SEE OTHERS NEARBY.

   a. Signal by any means at hand. Use a shaving mirror to reflect the sun. Wave a brightly colored item.
   b. Make marks in the sand or lay out rocks large enough to be seen from the air: SOS or HELP.
   c. Start Fire—smoke in the daytime and flame at night.
   d. Get involved in your rescue but conserve your body water.

7. DO NOT EAT ANYTHING.

   a. All food is water demanding. Water is drawn out of your system to process, digest, and eliminate what you eat.
   b. No salt or salt tabs—they will dehydrate you.

8. KEEP YOUR MOUTH CLOSED. Breathe through your nose to minimize evaporative water loss.

9. THINK LIKE A SEARCHER. Do the things that will make it easier for your rescuers to help you.

   a. Leave a clear trail with notes and directional signs.
   b. On the note, give your name, day, time, direction, and reason you are going.
   c. Have a goal in mind—go in one direction with care. AVOID INJURY.

10. USE YOUR HEAD, NOT YOUR SWEAT; DRINK THE WATER YOU HAVE. Never ration water! Drink what you have as you need it. Discipline is essential to survive.

COMMENT ON THE COMMANDMENTS

As you can see, the commandments are mostly common sense. They are designed to give you some idea of how to survive in the desert until help arrives.

The key to survival is to minimize the amount of time you have to spend in the desert and how to make yourself visible to those searching for you. Remember it is easier to be found than to try to find help if you are ever stranded in the desert. An aircraft is easier to spot from the air than someone walking across the desert is. That is why the commandments stress remaining with your vehicle if at all possible rather than hiking out. But if you decide to hike out, remember to leave some type of message telling what your intentions are in case searchers find your aircraft. Make sure your message is visible and can be easily found.

AIRCRAFT RADIO AND ELT: TWO MEANS OF HELP

As we have said, a basic survival kit with the knowledge how to use it and operating within your aircraft's performance will keep you out of trouble most of the time. In case you ever find yourself making an unplanned stop in a desert, consider you will need at least one gallon, preferably more, of water per person per day. You need some type of sunshade and clothes to protect yourself from the sun. You also need to have a means of communicating. Fortunately, you might be able to use your aircraft radio or your backup handheld radio to contact an overflying aircraft on either 121.5 MHz or the local air traffic en route frequency. You can find the local frequencies on your charts or in the FAA's *Airport/Facility Directory.* Remember to make sure your ELT is transmitting. This can be done by monitoring 121.5 MHz on your aircraft's radio or your handheld transceiver.

SUMMING UP: PLAN TO SURVIVE

Considering how difficult and potentially dangerous it is to try walking out of the desert, do your best to plan your route of flight along major highways and population centers. The extra distance that might be involved in following a highway is worth the time in terms of the extra safety provided by keeping you within gliding distance of the road. If you have not reviewed your aircraft's published glide speed/distance chart recently, now might be a good time to review the data and how your aircraft has to be configured to meet the published data. Remember that wind affects your glide distance over the ground. Gliding down wind extends your distance and chances of finding a better place

to land. Gliding into the wind reduces your gliding distance over the ground and reduces your options.

Generally speaking, it is better to make an early decision to land off airport and plan and fly a normal pattern to a pre-selected spot than to make a last minute poor decision. You must always remember to fly your aircraft all of the way to the ground. Panic and loss of control are more deadly than an off-airport-controlled landing. An important safety rule to remember is the slower you can set your aircraft down without stalling it, the better. The slower the touchdown, the less energy the aircraft has to lose. The less impact energy you and the aircraft have to absorb during an off-airport landing, the better your chances of survival.

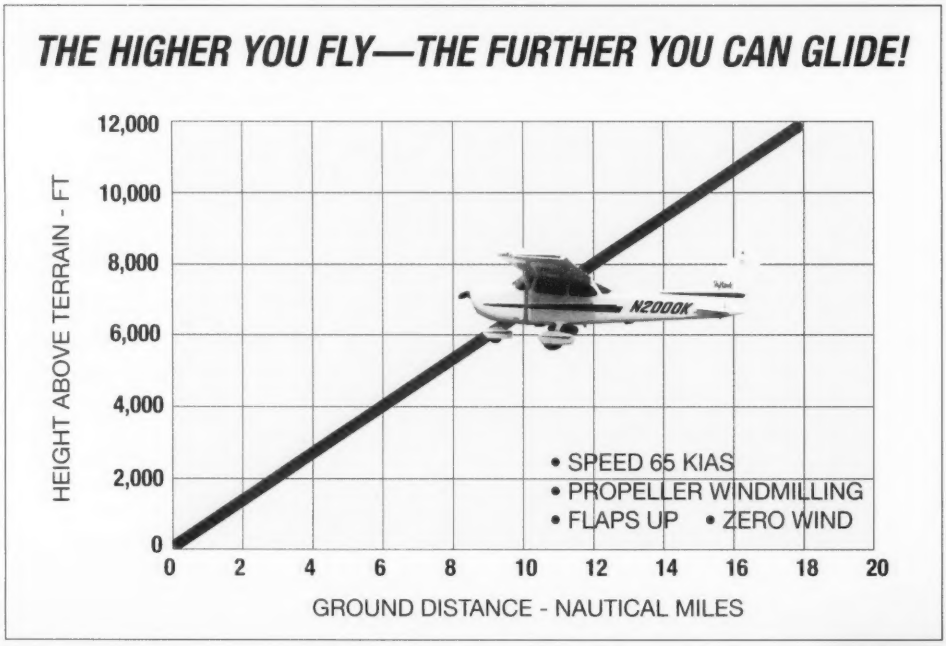
A good procedure is to always plan your flight for safety and then fly your plan. Finally, the importance of a filed and activated flight plan cannot be overstated.

MORE INFORMATION

For more information about desert survival, you can check the Internet or your local library. If you are flying to a desert location that you are not familiar with, a very good information source is the FAA's Flight Standards District Office's Safety Program Manager (SPM) for the area. The SPM can either answer your questions or put you in contact with a local desert expert willing to help you. Your local SPM may have a copy of a relatively new FAA safety video on land survival you might want to review before your departure. It is your flight; plan it carefully.

For more information on heat-related data, the National Weather Service's Internet web site is a very good source. In addition, the Internet provides a great deal of information on heat-related subjects and dangers.

A train crosses this southern California area east of Brawley, California. Not only is this land inhospitable, but the airspace is in the middle of military operating and restricted areas.



FAA CONTACT NUMBERS

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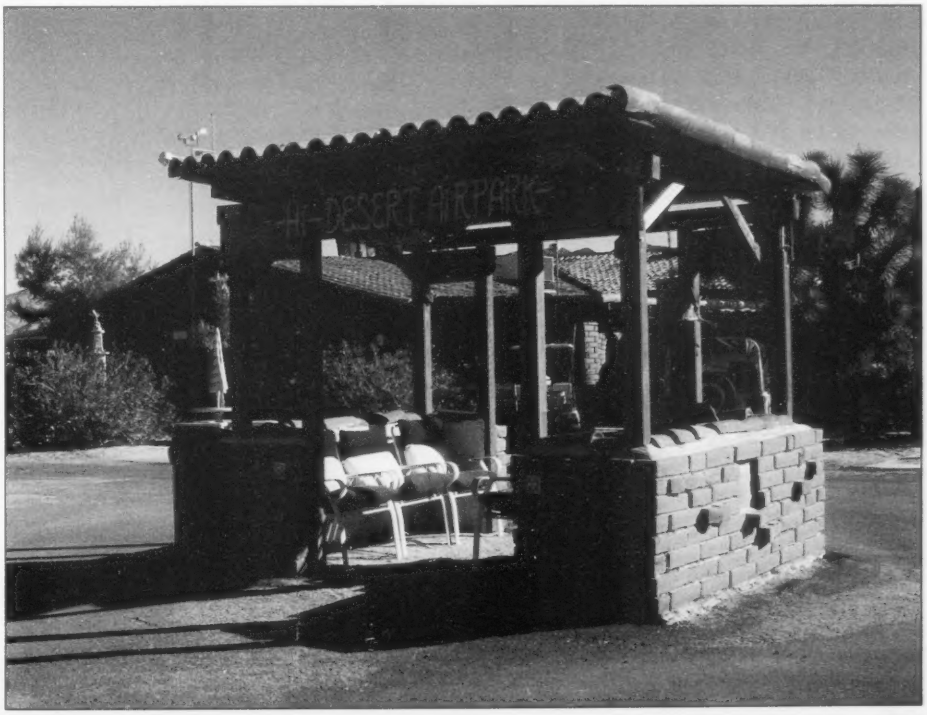


NATIONAL WEATHER SERVICE'S REPORT ON HEAT DANGERS

Although this story started out discussing flying tips for operating in the American desert areas, it rapidly became obvious that pilots, flight crews, and passengers are heat risks wherever they operate in the summer. From the IFR pilot holding at the end of the taxiway for a clearance, to the air show pilot sitting on the taxiway waiting to perform, or to the glider pilot working a hot summer thermal, each is at risk from the heat and more importantly, from the danger of not drinking enough water. As noted in the National Weather Service's Heat Wave data, (see sidebar) people are at risk for heat problems whether they are on the flight line, in their aircraft, or at home in the city. Hopefully, this article reminds all pilots of the special dangers of summer. Heat related problems can be as deadly to a pilot as the lack of oxygen. One we talk about frequently, and we even have special altitude rules specifying when oxygen must be used and by whom, but seldom do we discuss heat problems and their effects on the ability of a pilot to control an aircraft in flight.

The seriousness of the danger heat poses for people is noted by the National Weather Service's *Heat Wave* statistic that in a normal year, about 175 Americans die as a result of summer heat. The attached *Heat Wave* data states, "In the disastrous heat wave of 1980, more than 1,250 people died."

HEAT INDEX/HEAT DISORDERS	
Heat Index	**Possible heat disorders for people in higher risk groups**
130°F or higher	Heatstroke/sunstroke highly likely with continued exposure.
105° - 130°F	Sunstroke, heat cramps, or heat exhaustion likely, and heatstroke possible with prolonged exposure and/or physical activity.
90° - 105°F	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and/or physical activity.
80° - 90°F	Fatigue possible with prolonged exposure and/or physical activity.

Know These Heat Disorder Symptoms

Heat Disorder	Symptoms	First Aid
Sunburn	Redness and pain. In severe cases, swelling of skin, blisters, fever, headaches.	Ointment for mild cases if blisters appear. If breaking occurs, apply dry sterile dressing. Serious, extensive cases should be seen by a physician.
Heat Cramps	Painful spasms usually in muscles of legs and abdomen possible. Heavy sweating.	Firm pressure on cramping muscles, or gentle massage to relieve spasm. Give sips of water. If nausea occurs, discontinue use.
Heat Exhaustion	Heavy sweating, weakness, skin cold, pale, and clammy. Pulse thready. Normal temperature possible. Fainting and vomiting.	Get victim out of sun. Lay down and loosen clothing. Apply cool wet cloths. Fan or move victim to air conditioned room. Sips of water. If nausea occurs, discontinue use. If vomiting continues, seek immediate medical attention.
Heat Stroke (or Sunstroke)	High body temperature (106°F or higher). Hot dry skin. Rapid and strong pulse. Possible unconsciousness.	**Heat stroke is a severe medical emergency. Summon medical assistance or get the victim to a hospital immediately. Delay can be fatal.** Move victim to a cooler environment. Reduce body temperature with cold bath or sponging. Use extreme caution. Remove clothing, use fans and air conditioners. If temperature rises again, repeat process. Do not give fluids.

From the sand dunes near Brawley to the mountains near the San Jacinto Wilderness Area, pictured above, California's landscape could provide a challenge to the unprepared.

NIGHT VISION DANGERS

If you don't survive your crash, it is pointless to discuss post-crash desert survival. To illustrate this point, Mr. Robert J. O'Haver, an FAA Aviation Safety Inspector assigned to the Flight Standards Service's General Aviation and Commercial Division's Operations and Safety Program Support Branch in Washington, DC, told the following story. Although he thinks the story may make him look foolish, it is a good reminder to those pilots who have never flown with 60 or more miles of nighttime visibility of the dangers that may be lurking in a clear, moonless desert night. O'Haver, who has flown extensively throughout New Mexico, said pilots have to remember the lights they might see in the desert at night may be 60 to 80 miles away. He said long-range night visibility can be potentially hazardous for those not aware of the risks it poses.

To illustrate his point, he told the story about one of his flights in a Beechcraft *King Air* on a dark, moonless night. "I was flying about 10 or 11,000 feet IFR. I could see the lights of cars moving along a road across the desert. It was easy to start using the lights as the horizon. But after a while, I realized that the aircraft was turning. I kicked in some rudder to stop the turn when I realized that the problem was the road was now slanting across a mountain. I had been trying to use the sloping line of lights on the mountain as the level horizon."

He told about a nighttime turbojet accident that happened when the crew flew into a blacked-out hill after they lost sight of the airport lights. Blacked-out areas are particularly dangerous in remote areas where there are few or no ground lights. A good rule of thumb when flying anywhere at night is that normally in built-up areas people build houses everywhere. A black hole or an area with no lights either means a mountain, hill, or body of water. There has to be some reason people didn't build in that area if the rest of the area is built-up and lighted. That reason could be dangerous to an aircraft.

"To avoid such problems," he said, "pilots need to review the *Aeronautical Information Manual*'s (AIM) section on visual effects to avoid a similar nighttime accident when flying on moonless nights over the desert."

Pilots interested in learning more about the effects of vision on flying can review AIM paragraph 8-1-5, Illusions in Flight. O'Haver's illusion that night is called "false horizon." A condition of an aircraft not being correctly aligned with the actual horizon. For those not aware of such illusions, the potential risks can be deadly. The AIM section on illusions also includes illusions leading to landing errors.

It is a long walk for help, unless you fly high and near a highway.

The Dreaded Annual Inspection

by Jim McElvain

It's over. The dreaded annual inspection that seems to come around about every other week! But, it wasn't so bad after all! Each year my son and I have assisted with the inspection, while the IA says things like: "Who in the heck taught you to safety wire?" and "Ya'll look like a couple a monkeys wraslin' a football!." The IA's I have worked with are "colorful" to say the least, but I will give them credit where credit is due. Both of the men doing inspection duties on my aircraft over the last ten years are honest, helpful, and each displays tremendous integrity. When the last inspection plates have been replaced, the tools put away, and the documentation completed, my airplane is right!

What are the benefits of an aircraft that is legal and in proper working order? First, the peace of mind that comes with a safe aircraft. Can it quit right after a thorough annual? Sure, but the odds are definitely more in your favor if it has been carefully scrutinized! And, whether you own or rent, think of the consequences that can occur if you have to make an off airport landing or have a flight control failure. At the very least, you are going to have to find a new way home and be out the expense of recovering the aircraft. I know of more than one flight school that has gone out of business by trying to cut corners on aircraft maintenance. Recovering aircraft, accidents, and increased insurance premiums more than offset any possible gains due to "thrifty" maintenance techniques. On the other end of the scale, think of the horror that you would have to live with if you knowingly allowed "shoddy" maintenance to take the life of one of your family members or other passengers.

A thorough annual inspection is never going to be as cheap as your car's tune up at the local "Quick Tune and Pizzaria." But, a good annual and economics can peacefully co-exist. The most important first step is to find a good "mechanic." I say mechanic instead of technician, just to draw a little attention. There are parts changers, and there are well-trained, knowledgeable craftsmen who know their trade. These people know when a part is still serviceable and when it must be changed. They know what is safe and what has effectively reached the end of its service life. New tolerance and within tolerance are two vastly different terms that come with vastly different price tags. Good mechanics/technicians can keep your aircraft safe and legal at a reduced rate. By knowing their trade they catch problems early and avoid the high cost of major failures. Replacing bearings beats the heck out of replacing a unit in which the bearings have been allowed to fail.

If you have any mechanical abilities, I urge you to participate in the upkeep of your aircraft for several reasons. One is that you will take more time in a task than a mechanic will. They will do it right, but no more—and you couldn't afford for them to do otherwise! You have the luxury of taking your time to accomplish unnecessary repainting, trimming, polishing, and fitting. In addition, you will learn things about your aircraft that may change the way in which you operate it, leading to greater economy and safety. And, speaking of economics, it makes no sense for a trained professional to spend time removing cowlings, interior and inspection plates if you can do it. Marchin' or fightin', it all pays the same!

Whether or not you physically participate in your annual, you need to be involved in the documentation phase. Clear, concise records will save valuable time and money later. And, like the service record on a Mercedes, it will make your aircraft more valuable down the road. A considerable amount of an IA's time is spent researching Airworthiness Directives (AD's), and this can turn into real money fast! By assuring that your IA puts together comprehensive lists of one-time, recurring and non-applicable AD's, you will greatly cut down on the research required next year. Remember, marchin' or fightin', it all pays the same!

So, doing it right is cheaper in the long run. Find a good mechanic, participate in the work if you can, and assure that complete records of all maintenance are kept. While you're at it, speak to your IA or A&P and find out about the preventive maintenance that you can legally do by yourself. You'll sleep better at night knowing that your aircraft is top notch, but it will probably still generate strange noises on dark nights over hostile terrain!

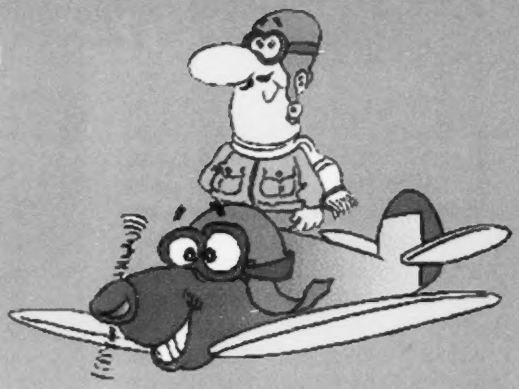
Note: Renters, and those who fly other people's aircraft, should also pay close attention to aircraft maintenance and records. Technically, if you act as pilot in command of an aircraft, you are responsible for its airworthiness and required inspections. Besides, who has the most to lose?

Jim McElvain is the Regional Safety Program Manager in the FAA's Southwest Region.

Safety First

History of the "WINGS"

by Patricia Mattison



It all started in the early 1970's when pilot safety meetings were not as regular as they are now nor was there any tangible benefit for those who attended the programs. The educational benefits were there, and dedicated pilots attended the meetings on a regular basis—much as they do today.

Legend has it that in Southern California a doctor's wife saw that he was so dedicated to safe flying he loyally attended each and every safety meeting in his hometown. She felt that he needed to be recognized for his efforts. One evening when the doctor returned from one of the meetings she made a great ceremony of placing a safety pin on his collar in recognition of his desire for aviation safety.

The FAA thought this was a splendid idea and took it one step further and had an award pin designed. It was made in the shape of the safety pin with the Spirit of St. Louis on it. The pin was given to pilots who attended safety meetings on a regular basis. At last something you could see and feel as a reward.

The "Safety Pin" was used as an award for several years, and then a new design was developed. The aviator wings pin of the Pilot Proficiency Award (better known as the "WINGS") Program replaced the "Safety Pin" and remains the same today. However, the pin is not the sole reason to attend safety meetings. Pilot safety meetings are a great way to learn new information, ask questions on special interest issues, meet with other pilots and mechanics, and have a good time to boot. Each district has a varied schedule of meetings based on pilot population, geographic location, and any special issues that arise.

Pilot Proficiency Awards are based on a couple of requirements. You must attend at least one pilot meeting every twelve months. You are also required to take three hours of flight instruction each twelve-month period. The instruction you receive is based on the certificate you hold. A new Private Pilot may use the last three hours that they receive in preparation for their test to meet the requirement.

Once the requirements are met, the applicant for a Pilot Proficiency Award fills out an application card, which they can acquire from any Safety Counselor or Safety Program Manager (SPM), and returns that card to the local Flight Standards District Office (FSDO). There is a place on the reverse side for the instructor to sign off that the required flight instruction has been given. When the FSDO SPM receives the card, a letter is written to congratulate the pilot with a certificate and a "WINGS" pin attached.

There are 10 phases of "WINGS" pins jewelry available at this time, and another 10 phases with an awards certificate. Additionally, a "SEAWINGS" series is available for seaplane pilots. Needless to say, receiving Phase 10 or higher is a well-earned reward for years of safe flying. However, you must start off with the first phase, and progress through all the phases.

The "WINGS" pin is not the real reward. The real reward is the fact that pilots who continually train and hone their skills are better pilots for it. It is a fact that pilots who care enough to continue to sharpen their skills seldom end up as a statistic. The Pilot Proficiency Program simply encourages us to do what is best for us as pilots. We meet the requirements by receiving training at the time that we need it most, after we have completed our training for certificates.

There are other advantages to coming to the meetings and getting the necessary flight training. The Pilot Proficiency Program may also be used in lieu of a flight review, which every pilot needs anyway. There are some insurance companies that recognize the fact that extra effort for safety is being made through the program. These companies reward the pilot by a discount in insurance costs. Contact your carrier to see if they participate.

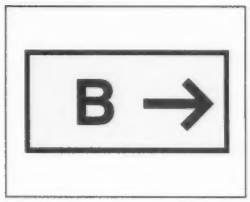
But the best reward of all is the peace of mind that you, as a conscientious pilot, receive when you know that you are doing all you can to keep safe and make the skies safe for us all.

+

Patricia Mattison is Safety Program Manager at the Juneau (AK) Flight Standards District Office.

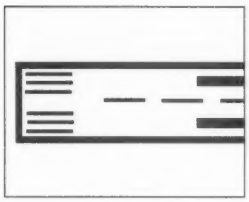
RUNWAY SAFETY CORNER

Now that the warmer weather is here and more pilots are taking to the air, it's time to test your knowledge on runway signage. Read the following multiple choice questions and circle the correct answer. (Answers found on page 26.)



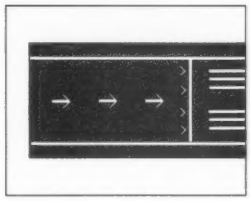
Question 1. When exiting the runway, what is the purpose of the runway exit sign?

a. Indicates direction to take-off runway
b. Indicates designation and direction of exit taxiway from runway
c. Indicates designation and direction of taxiway leading out of an intersection



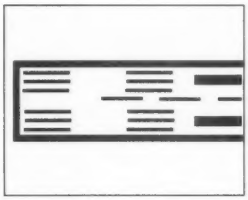
Question 2. Which of the following markings are associated with a non-precision instrument runway.

a. Designation, centerline, and aiming points
b. Threshold, designation, centerline, and aiming points
c. Threshold, designation, centerline, aiming points, touchdown zone, and side stripe markings



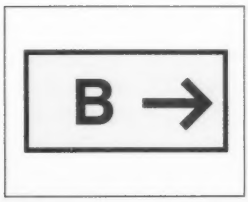
Question 3. What is the purpose of the runway threshold bar markings?

a. Delineates runway with displaced threshold from taxiway preceding runway
b. Delineates beginning of runway available for landing when pavement is aligned with runway on approach side of threshold
c. Delineates entrance to runway from a taxiway



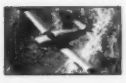
Question 4. Which of the following markings are associated with a precision instrument runway?

a. Designation, centerline, and aiming points
b. Threshold, designation, centerline, and aiming points
c. Threshold, designation, centerline, aiming points, touchdown zone, and side stripe markings



Question 5. When turning onto a taxiway from another taxiway, what is the purpose of the taxiway directional sign?

a. Indicates direction to take-off runway
b. Indicates designation and direction of exit taxiway from runway
c. Indicates designation and direction of taxiway leading out of an intersection



Famous Flyers

Galina Brok-Beltsova (right), sporting her orders and medals, is presented for the induction of all Soviet Airwomen of WWII into the Women in Aviation Pioneer Hall of Fame by Galina Korchuganova. Korchuganova is a former Soviet test pilot and 1966 World Aerobatic Champion.

How They Must Love Their Homeland

story and photos by Phyllis Anne Duncan

To lead up to the celebration of the 100th Anniversary of the Wright Brothers' famous flight, FAA Aviation News *will be reviving a column we put aside some years ago—the historical article that featured either a Famous Flight or a Famous Flyer. This is the first in the rejuvenated series.*

Much of this article is based on an interview conducted through an interpreter and consists of a one-on-one session with the Editor and also the Editor's listening to the filming of a documentary to be produced about the Soviet airwomen in World War II. Spoken Russian does have a certain lyricism to it—they consider themselves a nation of poets, after all—but when translated loses some of its charm. The resulting English sentence structure is sometimes short and choppy, even a bit stilted, compared to customary English. Russian does not use articles (the, an, etc.), and there is no use of Mister or Miss or Mrs. or Ms in formal or informal speech. Russian men and women are generally addressed by their last names by another Russian; hence, no disrespect is intended by referring to the women in this article in a similar manner.—Editor's note.

"They were attacking my city. There was panic in the streets. What else could I do except join the army? It was my duty."

A young man or woman speaking about the events of September 11, 2001? Surprisingly, no. This was a 76-year old woman speaking about her wartime experience. Her war was World War II, or in her vernacular, The Great Patriotic War; the city was Moscow; and she was a 16-year old sports enthusiast who watched the city her family had lived in for three generations be bombed by the Nazis. The year was 1942, and Galina Pavlovna Brok (Beltsova after her marriage) left behind volleyball, swimming, skating, and skiing for a uniform, a sidearm, and the navigator's station in a Soviet Petylakov Pe-2 bomber. (The Pe-2 was a mid-sized twin-engine aircraft converted to a bomber and capable of carrying only one 1,200-

pound bomb. At the time, however, it was the most sophisticated aircraft in the Soviet fleet.) Beltsova is one of the then Soviet Union's famed airwomen who flew combat missions along its western front in World War II.

In 1996 I wrote a profile of the so-called "night witches" in the March issue of *FAA Aviation News*. I have since learned that some consider "night witches" a derogatory term, especially several scholars who have extensively studied these women and their exploits. This was a term the Germans called them, and Beltsova explained it this way:

"We slept in anything we could find—holes in the ground, tents, caves—but the Germans had to have their barracks, you know. They are very precise. So their barracks were built, all in a neat row, and we would come at night, after they were asleep, and bomb them. Of course, they would have to run out into the night in their underwear, and they were probably saying, 'Oh, those night witches!' Or maybe they called us something worse. We, of course, would have preferred to have been called 'night beauties,' but, whichever, we did our job."

To summarize a bit of history—Germany broke its 1939 non-aggression pact with the Soviet Union in June 1942 and attacked all along the western front of the USSR. Taken by surprise, the Soviets lost many aircraft on the ground in the Luftwaffe attacks or by capture when the Nazis overran an airfield. The Soviets undertook a massive migration of their manufacturing facilities to the Ural Mountains, some 800 miles east of its capital, Moscow, but in the meantime it needed what aircraft it did have in the air. The only problem was a shortage of trained pilots. The USSR turned to a system in existence for several decades, a series of youth groups and organizations which emphasized sports, among them parachuting, flying, and shooting. The organization was called Osoaviakhim, and nearly every city, town, and village had its own club. (Osoaviakhim was also the training ground for future Soviet Special Forces and the KGB, but that's another story!)

By Soviet Law all jobs, education, sports clubs, etc., were open to men and women equally, and many young women were flight instructors in the Osoaviakhim structure. However, when the Red Army air corps came calling, they overlooked the women and conscripted the male students, some of whom had far less experience than the women. The women found themselves in a situation that many European and American women have experienced—training less qualified people for a job they could do themselves. On the surface, Soviet law was egalitarian, but the Communist mind-set always was something along the lines of, "Of course, Comrade Wife can be a doctor, a lawyer, have any job she wants—as long as she takes care of the children and has dinner prepared on time."

"Sometimes, seeing how the girl armorers hung heavy bombs from the aircraft, how the [girl] mechanics prepared the airplanes at night in snow and frost, I thought, 'well, okay, we men are supposed to do all this...but them?! They, who for the most part are still girls...how they must love our homeland!'"

Major Valintin Markov
Commander, 125th Guards Bomber Aviation Regiment

Another aspect of Soviet life we in the west have overlooked as a result of 40 years of Cold War was the fact that a Russian can be just as patriotic about his or her country as any flag-waving American. America and its established freedoms were born out of revolution, but we have seldom had to fight foreign invaders. A Russian is fiercely protective of Rodina (motherland), and the Russians have had to fight almost all of their history to maintain their borders. (Of course, they've had no qualms about fighting wars to extend their borders, either.) When they were attacked in World War II, just as Americans did, they mobilized to repel the invaders. What they lacked in technology they made up for in sheer numbers, dogged determination, and their most powerful weapon—the Russian winter. Just ask Napoleon.

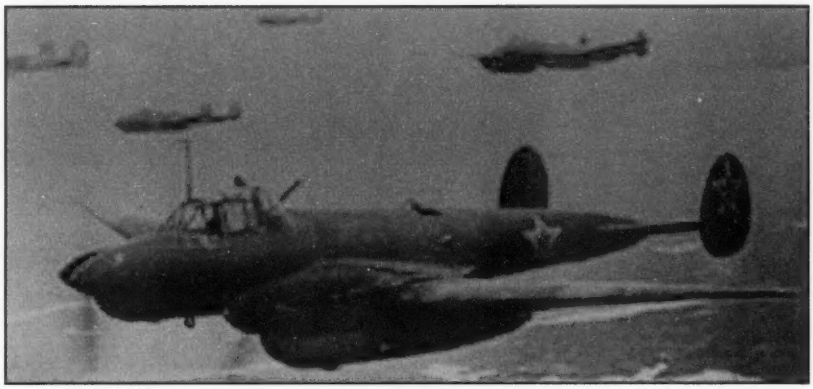
So, it was not unusual for the Soviet women to want to protect, to fight to preserve their country. Legend and some archaeological evidence place the tribe of the Amazons on the Steppe of Russia. Women fought alongside men during the Bolshevik Revolution and on both sides during the civil war which followed the Bolshevik takeover. The women aviators of Osoaviakhim wanted to fight, but army bureaucracy and quite a bit of paternalism stood in their way. However, they had a highly placed champion.

Anyone who knows anything of the history of that period knows that the USSR was Stalin and Stalin was the USSR. Unlike Hitler, Stalin did have more of a strategic background, but he did leave most of the war strategy to the generals (those that he hadn't purged in the 1930's, but again I digress). When Hero of the Soviet Union—their highest order—Marina Raskova approached him with the idea of all-women aviation regiments, he listened. Raskova had Stalin's ear because she was the USSR's preemi-

nent woman aviator, holder of many records and the navigator on a record-breaking flight that three Soviet women had conducted in 1938, the longest straight-line distance flight without stopping or refueling. In fact, many aviation records set in the 1930's were done so by Soviet aviators, many of them women. Anyone who demonstrated the "superiority of the Socialist State" was rewarded, and Raskova's reward was unfettered access to the Chairman himself, Stalin. Although the generals still fought her every step of the way, Raskova formed three all-women fighter and bomber regiments. And when the generals ignored her suggestions or treated her women unfairly, she had no qualms about picking up the phone and calling Stalin right in front of them. Such was Stalin's reputation that the generals were compelled not to stand in her way.

At first the pilots, navigators, and mechanics were mixed in with their male counterparts, but finally they flew in their own regiments, each of which had a male commanding officer who was usually skeptical of the women until they proved themselves. The fighters and bombers of the women's regiments were instrumental in the Battle of Stalingrad, and the women amassed recognition for their bravery and grudging respect. The rest is history, except it wasn't, of course. Much like the American Rosie the Riveter, after the war, the vast majority of these women left aviation because there were no opportunities and no support. A few women remained in the military, even fewer in military aviation. As I said in the 1996 article, when a succession of Soviet leaders displayed veterans for a May Day parade, we saw the beribboned women among them. We just didn't recognize them for whom they were. Then, people who researched and discovered our own Women Air Service Pilots (WASP) and who fought to acquire veteran status and rights for them learned as well about the Soviet experience.

The first person to publish anything at length on the Soviet airwomen was Bruce Myles, whose book *Night Witches*, first brought them prominent notice in the west. Myles' book has since been dismissed by scholars because of problems with translations and because he tended to emphasize some of the more sensational aspects and apparently took some dramatic license with the facts—again according to these academics. However, I maintain that the book drew attention to a subject that had long been ignored. There has been sufficient scholarship since to overcome any misconceptions Myles may have inadvertently printed.



A war-time photo of a Soviet Pe-2 dive bomber, the model on which Beltsova was a navigator on the 36 missions.

Galina Brok-Beltsova, whom I had the opportunity to interview while at the recent Women in Aviation International Conference in Nashville, TN, is a lively, enthusiastic great-grandmother who proudly wears the ribbons from her corresponding orders. (In the Red Army system, a medal was something given to everyone for a mission, but an order is higher in prestige and given for individual accomplishment.) One of her orders is the Order of Lenin, once the second highest award in the defunct USSR. A proud Muscovite, she was equally proud to represent all of her "sisters" in receiving a plaque honoring the induction of the Soviet Airwomen of World War II into the Women in Aviation Pioneer Hall of Fame. During that ceremony, she acknowledged the applause and the standing ovation with serene dignity, but, briefly, a look of wistful sadness crossed her face. I recognized it instantly. It was much the same expression I'd seen on my father's face when he spoke of World War II. I asked her later what she was thinking of.

"All the young faces," Beltsova replied. "We were all so young. Some of the women so beautiful. A lot are gone now. Some died in the war. Many have died since. There have been so many wars. Too many wars. That's what I was thinking."

Much like any veteran, Beltsova looks back upon her service as something she had to do to fulfill her duty to her country. Again, I recognized the sentiment, having had service to country stressed to me by my own father, which is why I'm where I am today. I asked her the same question I once asked my father, and, not surprisingly, I got a similar answer. Were you afraid?

"The first time, we didn't know what we were doing," she declared. "The night was beautiful, all these flashing lights, the airplane performed well; then, we got back to base, and the men told us that the nice lights were anti-aircraft fire. Well, all our knees were shaking. But after that,

we just did it. We had to. For inspiration, we had a portrait of Raskova at our base, and we each carried a picture of her in a pocket on the leg of our flight suits. The pocket had a clear covering over it, so we could see her picture. We all called ourselves, Raskovsi, belonging to Raskova. She was brave, and so we were brave."

Raskova, after setting up and training most of the women, flew in combat herself and was killed, and Beltsova never got to meet her. However, that did not and still does not deter any admiration or hero worship.

What the women were most afraid of was being captured by the Nazis, and had they been captured, it was a two-edged sword for them. They feared mistreatment by the Nazis, and they feared punishment from the USSR when they were released. The Communist Party considered all Soviet prisoners of war to be collaborators with the enemy, and after the war, they often went from a German POW camp to a Soviet gulag for "allowing" themselves to be captured.

Beltsova was a navigator in the 125th Guards Bomber Aviation Regiment, which was one of the three all-women air regiments. In the Pe-2 bomber, she is a veteran of 36 successful night dive-bombing missions. The Pe-2 typically flew a three-woman crew—pilot, navigator, and radio operator/gunner. Often, however, a replacement radio operator/gunner could not be found in time for a mission or was wounded during a mission, and the navigator had to be able to assume those duties as well.

"I had to make sure the airplane stayed on the proper course," Beltsova explained, lining her hands up one behind the other. "We couldn't go off course or our own fighters might think we were the enemy. So, I gave the pilot all her directions. Then, I had to identify the target." She demonstrated this by "looking" through a bombsight she made of her hands. "Then, I had to drop the bomb." Her right hand pulled an imaginary lever. "Finally, sometimes I had to go up into the gun turret and fire the gun at any Germans who might come after us." She pantomimed that as well, and that is beyond my descriptive ability with words. Suffice it to say, I got the picture, though.

"I did almost everything except land the airplane, though I could have done that if I wanted to!"

The Pe-2 had a short turnaround time (one to two hours), and crews could fly two or three missions a night, still an incredibly hard job for both the aircrews and the ground support personnel. Because fighter regiments flew escort for the bombers, they, too, had to be turned around in an equal amount of time. This put a lot of pressure on the mechanics to fix any battle damage or other mechanical problems, on the armorers to get ordinance in place, and on the pilots and navigators to plan their routes and learn their targets, not to mention getting some rest. Women often hid injuries or illnesses so they wouldn't be sent away from the front. Quite common among the ground crews working on aircraft or loading bombs was frostbite in the legendary Russian winters. Such self-sacrifice is not just endemic to women; rather, women soldiers demonstrated the same sense of duty, honor, and country as their male counterparts.

Also like many U.S. veterans, Beltsova considers her service the high point of her life. "We were doing something that had to be done. If we didn't, where would we be now? What would the world be now? I don't even want to think about that."

Another common aspect of her service was the bonding with the women within her group. "We were sisters," she said. "We laughed together. We had some very good times. And we were sad together when one of our planes didn't come back." A friend of hers, a pilot of another aircraft, was shot in the stomach on a mission, and though the friend survived, the event left its imprint on Beltsova.

"Why did your father go to fight?" she asked me.

I explained that he had also volunteered a few months before he was eligible to be drafted.

"No," she said, "why did he volunteer?"

And I could remember quite clearly what he had always said and repeated that to her—"I fought so you wouldn't have to."

"Ah!" Beltsova said. "Your father understands, so you understand. We had to fight." She grew very serious, and I again saw the same reluctance to speak of it as I had seen in my father. "The war is always present for me. It goes through my heart and my mind and brings back the faces of ones who have gone," she said.

Quite simply, as much as we came to distrust the Soviets over the years, at that moment in time we were together on one significant point. The fight for freedom overcame personal concerns and needs, and the greatest generation did just that so the rest of us could live in the same freedom. There can be made a good argument that the Soviets weren't interested in freedom but world domination, but that was the Party and Stalin. The average Russian loves freedom as much as any American and will die to preserve it when the need arises.

After the war, Beltsova wanted to go to college right away, but her fiancé said, "First things first. First, we get married, then you go to college." She did marry, and she did complete her education, earning several degrees in history. She has taught at three universities. (When I told her I, too, had a degree in history, Beltsova was pleased and called me her "colleague." She was further amazed to learn that I had studied Russian history, finding it incredible that an American would be interested in her country.) She also did a stint in the KGB, but raises a wall of silence when you ask her about that. She and her husband had three children, and she has seven grandchildren and two great-grandchildren. She lives on a pension, the equivalent of about $40 a month.

Beltsova, on her first trip to America, was overwhelmed, as many Russian visitors and emigres are, by the everyday choices we take for granted. My first encounter with her was at a

breakfast buffet—with no interpreter. She was amazed that she was allowed to take as much food as she wanted for one price. She also enjoyed seeing some night life in Nashville, America's country music capital, where she learned to line dance, and, rumor has it, she managed to drink a couple of young women who took her to dinner under the table.

Beltsova was "very excited and touched" to receive the Pioneer Hall of Fame award "in honor of all women pilots—everywhere." She was especially pleased that American women pilots gave the women pilots of the Soviet Union such high regard. "Such awards we have not received in our own country since the war."

When she learned I was a pilot, she was very excited to "meet such a young woman who is a pilot." Needless to say, I didn't disabuse her of the young portion, but the statement underscores a depressing situation in her homeland.

Accompanying Beltsova was Galina Korchuganova, a former Soviet test pilot and the 1966 World Aerobatic Champion. Korchuganova is the founder and president of Aviatrissa, a Russian women's pilot association. A graduate of the Moscow Aviation Institute, Korchuganova sees her new mission, since she retired from test piloting, as preserving not only the history of Russian aviation but Russian women's role in it.

"Say what you will about Socialism," she says, "but then any woman who wanted to join a flying club and learn to fly could do so, and it was free. In 1973 and 1977, there were many women who trained to be pilots for Aeroflot. They are still flying, but they are about to retire. No other women are coming forward to replace them, and the simple reason is money."

Osoaviakhim is long gone, and what flying clubs there are now are, of course, moneymaking ventures. The average Russian, male or female, finds pursuing flying as a hobby beyond his or her financial reach. Neither the Russian military nor the various Russian airlines are recruiting women or show very much interest in doing so. The only Russians who can afford flying lessons are the Oligarchs, the class of entrepreneurs who rose when the Soviet Union broke up and many of the former party officials got lucrative privatization rights, and Korchuganova says, "Their women are only interested in expensive clothes and jewelry."

That sounds bitter, and Korchuganova's bitterness is somewhat understandable, though when you're in a survival economy, you choose survival over most anything else.

"We have these wonderful examples of the women from the Great Patriotic War," Korchuganova explains, "but no opportunity to put them on display for young women to see that they can do the things we did. No one tells them that. Before, under the Communists, we were told it was our patriotic duty to be nothing but mothers and wives. That hasn't changed."

Korchuganova and Beltsova both hope that the honor of being inducted into the Women in Aviation Pioneer Hall of Fame will garner all Soviet and Russian airwomen some publicity. The commemorative plaque will go on display at a Moscow museum for a 10th Anniversary Conference for Aviatrissa in April. From there, it will go to Russia's equivalent of the Smithsonian Air and Space Museum, the Museum of Aeronautics and Astronautics. Beyond that, Korchugavnova doesn't see how to attract young women in Russia to aviation. The economy there, though steadily growing, allows very

Beltsova (seated) proudly displays the Hall of Fame plaque for the Soviet Airwomen of WWII, which will be displayed in the Russian equivalent of the U.S. Air and Space Museum. The cowboy hats are their favorite U.S. souvenirs—along with learning how to line dance.

little spare money for hobbies, and overcoming sexist barriers to women pursuing aviation in the military or the state airlines seems overwhelming.

"Russia's young people today can only focus on survival," Korchuganova explains. "The veterans of the Great Patriotic War are ancient history." Even her more recent test piloting exploits are rarely known beyond a circle of aviation historians. Like the World War II veterans in America, hundreds of Soviet veterans die every day, the former airwomen among them.

"Soon," says Korchuganova, "there will be no one who knows about this who can tell young women or men about this proud tradition."

Well, the readers of this article will know, and I hope that just one reader will sit down with children or grandchildren and tell them what the greatest generation on both sides of the world did for us and them. For a time in my rebellious adolescence, I didn't want to hear another of my father's war stories. Now, because he is no longer here to tell them, my brother and I make certain my niece and nephew know. The Cold War is over. What will it hurt to tell children that in another fight for freedom, there was bravery from Communist and Capitalist, from men and women?

When the allotted time for the interviews was over, I reluctantly took my leave. An 11-hour drive faced me, but I really didn't want this history lesson to end. Beltsova did a little dance while Korchuganova sang a couple of old Soviet war songs, bringing tears to the eyes of the translator. I understood perhaps one out of every 20 words, but the emotion in Korchuganova's voice told the story. That, and Russians have a way of making you sad with their poetry and their music. The next day, Beltsova and Korchuganova would return to Russia, and I wondered if I would ever see either of them again. Sealing my sadness was Beltsova, who shook my hand in a strong grip and said, "Please, don't forget us."

How could I?

Some Statistics on Soviet Women Air Regiments of World War II*

46th Guards Night Bomber Aviation Regiment (all female)

- Consisting of 246 personnel
  - 61 pilots
  - 63 navigators
  - 23 staff and political officers
  - 99 mechanics, armorers, and engineers
- 30 KIA
  - 14 pilots
  - 13 navigators
  - 1 political officer
  - 2 mechanics, armorers, and engineers

125th Guards Bomber Aviation Regiment (started out all female then men were incorporated)

- Consisting of 300 personnel
  - 33 pilots (30 women, 3 men)
  - 30 navigators (28 women, 2 men)
  - 41 gunners (11 women, 30 men)
  - 28 staff and political officers (23 women, 5 men)
  - 168 mechanics, armorers, and engineers (67 women, 101 men)
- 28 KIA
  - 7 pilots (all women)
  - 5 navigators (4 women, 1 man)
  - 7 gunners (1 woman, 6 men)
  - 2 staff or political officers (1 woman—Raskova—and 1 man)
  - 7 mechanics, armorers, and engineers (3 women, 4 men)

586th Fighter Aviation Regiment (male and female, but separated into all-male and all-female units)

- Consisting of 182 personnel
  - 50 pilots (37 women, 13 men)
  - 27 staff and political officers (18 women, 9 men)
  - 105 mechanics, armorers, and engineers (63 women, 42 men)
- 11 KIA
  - 10 pilots (9 women, 1 man)
  - 1 staff or political officer (man)

Totals:

- 728 personnel (523 women, 205 men)
- 69 KIA (55 women, 14 men)

Women aviator recipients of the highest Soviet military award, Hero of the Soviet Union (HSU):

46th GvBAP	24 (18 pilots, 6 navigators)
125th GvBAP	5 (3 pilots, 2 navigators)
Other, mixed units	4 (all pilots)
Total	33

Among other Soviet aviators who received the HSU before and after World War II are Grizodubova, Osipenko, and Raskova for the flight of the Rodina in 1938 and Cosmonauts Tereshkova (first woman in space, 1963) and Savitskaia.

Among the list of women aviators are some familiar names, the feminine versions of Gorbachev, Putin, Romanov, Ulianov, and Smirnov—Gorbacheva, Putina, Romanova, Ulianova, and Smirnova. It would be interesting to see if any are related to the former and current rulers of Russia and the Soviet Union (Ulianov was Lenin's real name) or the country's original producer of vodka.

**Some women were incorporated into other male bomber and fighter regiments, and towards the end of the war, some regiments were then consolidated. Records show that these three regiments started out all female; however, each of them had male commanders.*

• Request Permission to Borrow

While searching for items on flying for my son, I came across your website and the November/December 2001 article by Bill Belanger, "The Human Side of Decision-Making." It is tuned toward flying, but at the same time could be used for vessel pilots as well. I would like to submit it to my operations department at Kirby Inland Marine, Inc., with some add on notes that pertain to our field—I'm a relief captain on a 182 gross ton towboat. There is no listed e-mail for Mr. Belanger, so I am writing to you that you might pass along to him for permission to distribute throughout our company. Please respond ASAP as his is a great article in making decisions whether an airplane pilot or vessel pilot.

Adam Graser
via the Internet

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FAA AVIATION NEWS welcomes comments. We may edit letters for style and/or length. If we have more than one letter on the same topic, we will select one representative letter to publish. Because of our publishing schedules, responses may not appear for several issues. We do not print anonymous letters, but we do withhold names or send personal replies upon request. Readers are reminded that questions dealing with immediate FAA operational issues should be referred to their local Flight Standards District Office or Air Traffic facility. Send letters to H. Dean Chamberlain, FORUM Editor, FAA AVIATION NEWS, AFS-805, 800 Independence Ave., SW, Washington, DC 20591, or FAX them to (202) 267-9463; e-mail address:

Dean.Chamberlain@faa.gov

• Late Notice

FAA Aviation News is a publication I usually enjoy reading.

In the January/February issue, in the calendar of events, is a notice for the Great Lakes International Aviation Conference. The conference was great, however it would have been helpful to have the notice earlier. The conference was in January. I received the magazine early in February.

A notice of the January 17 -19, 2003 Conference would be appreciated in the October 2002 issue.

Dick MacDonald
Via the Internet

You didn't say if you subscribe to the magazine or picked up a copy at an FAA safety meeting or other site. We apologize for the late notice.

That issue should have been distributed to subscribers by the end of December or the first week of January. The magazine subscriptions are mailed out by the U.S. Government Printing Office (GPO). If you are a subscriber, please notify GPO about the delay at the address listed on the front inside cover of the magazine.

• *FAA Aviation News* Mail Delay

If you mailed something to the magazine after mid-September, there is a very good chance the magazine has not received it yet. Because of the risk of anthrax in the mail in Washington, DC, (the Brentwood facility to be exact) the magazine received in January mail postmarked during October and early November. The mail being received was held and then irradiated to kill any possible anthrax spores.

With the backlog of mail, it may be weeks yet before the magazine receives all of its mail. In fact, new mail is averaging four weeks to be delivered. The magazine is receiving electronic mail.

The magazine apologizes for the delay in answering your letters.

• How to Order Handbooks

In a recent issue of the magazine, an article mentioned the *Airplane Flying Handbook*. It sounds like a publication all pilots should have. Only one problem. There was no mention in the magazine on how to obtain a copy. Any suggestions?

Via Internet

The FAA-H-8083-3, Airplane Flying Handbook (formerly known as AC 61-21, Flight Training Handbook), is available from the Superintendent of Documents. Its stock number is 050-007-01274-8 and its cost is $25 ($31.24 foreign). It can be ordered from the Superintendent of Documents at P.O. Box 371954, Pittsburgh, PA 15250-7954, or by calling 202- 512-1800 (DC metro) or 1-866-512-1800 (between 7:30 a.m. and 4:30 p.m., EST). The Online Bookstore is at <www.bookstore.gpo.gov>.

RUNWAY SAFETY CORNER

Answer: 1-b, 2-b, 3-b, 4-c, 5-c

2001 AVIATION ACCIDENT STATISTICS

Aviation accident statistics released by the National Transportation Safety Board (NTSB) show a decline in the scheduled U.S. airline accident rate in 2001.

In 2001 there were 36 accidents on U.S. scheduled airlines, including the four crashes of September 11. Because the crashes of September 11, 2001 were the results of criminal activity, those crashes are included in the totals for scheduled U.S. airline accidents and fatalities but are not used for the purpose of accident rate computation. The remaining 32 accidents in 2001 result in an accident rate of .317 per 100,000 departures. These numbers represent a decrease from 2000, when 51 accidents were reported for a rate of .463 accidents per 100,000 departures.

The 531 fatalities associated with crashes involving U.S. scheduled airliners last year is the highest total since 1977, when two jumbo jets collided in the Canary Islands. Half of last year's fatalities (265) occurred aboard the four hijacked airliners on September 11. Other than a ground worker who was struck by a propeller at an airport in August, the remaining fatalities (265) occurred when American Airlines flight 587 crashed in New York on November 12.

Despite reporting fewer accidents in 2001, the accident rate for general aviation aircraft increased slightly from 6.33 accidents per 100,000 flight hours in 2000 to 6.56 accidents in 2001. General aviation was the only category of air transportation to report an increase in its accident rate, which is attributable to the fact that fewer hours were flown by general aviation aircraft in 2001 than in 2000.

Accident rates for both scheduled and non-scheduled 14 CFR part 135 service decreased in 2001. The scheduled service rate decreased from 1.965 accidents per 100,000 departures in 2000 to 1.407 in 2001. For unscheduled, on-demand air taxis, the rate decreased from 2.28 to 2.12 per 100,000 flight hours.

Air Carrier Occurrences Involving Illegal Acts has been added to the 2001 aviation statistics. As with 2001 statistics, accidents caused by illegal acts (such as sabotage, suicide, or terrorism) in previous years were not used when calculating the accident rate for that year.

Tables 1-12 providing additional statistics are available at the NTSB's website <http://www.ntsb.gov/aviation/Stats.htm> for those interested in viewing them.

2002 GENERAL AVIATION AWARDS PROGRAM WINNERS ANNOUNCED

The 2002 General Aviation Industry Awards Program has chosen Kirby Ortega of Wichita, KS, as Certificated Flight Instructor of the Year; Garry E. Conrad of Glendale, AZ, as Aviation Maintenance Technician of the Year; and Brady N. Terry of Prairie Grove, AR, as Avionics Technician of the Year. A formal presentation to the winners was given during ceremonies at the Aircraft Electronics Association (AEA) Convention and Trade Show in Palm Springs, CA, on April 26.

Kirby Ortega has been involved in aviation all his life. His father was in the Air Force and flew with local aero clubs. Kirby was 11 when his father took him up for his first flight in a Cessna. He soloed at 16, obtained his certificate at 17, became an instructor at 19, and, as they say, the rest is history. Over the next 25 years he has gone from a young entry level flight instructor to being responsible for all flight training activities for the Cessna Aircraft Co. He has conducted more than 12,000 hours of flight instruction, trained nearly 300 pilots, and given more than 300 checkrides as a Designated Pilot Examiner. Ortega is a Master Flight Instructor, an Aviation Safety Counselor, and an FAA Gold Seal Flight Instructor. He also holds an ATP certificate and AMEL, ASEL, and ASES ratings. One of his peers said, "I hold him in very high regard in terms of his personal character and values, as well as his skills as an aviator and his strong commitment to safety."

Garry Conrad began his aviation maintenance career in 1994 after a career in law enforcement. He holds Airframe and Powerplant ratings and is currently Chief Inspector and Falcon Program Manager for Swift Air/Swift Aviation, a company that operates several business jets under FAR Part 135 and is an FAA approved repair station. He is known for his dedication and commitment to safety and compliance. According to one of his peers, "Throughout his employment with Swift, he has demonstrated an aggressive attitude towards doing things right the first time and this includes the proper paperwork, as well as the inspection or repair tasks."

Brady Terry is the Assistant Chief Avionics Inspector at Wings Avionics Inc. and has 19 years of aviation experience. He works not only on "modern" aircraft, but is also known for his expertise on older military aircraft, such as P-51's and T-34's. Many of the nomination letters commented on his skill and work ethic, but this one sums it up best. "His work ethic is the best I have encountered in any industry. He shoots straight; has analytical skill that lets him discern the real problem when others see symptoms, and his integrity harmonized all his skills, experience and hard work into a pleasant and trusted experience for me as a buyer. That explains why I will fly over 600 miles one-way to let him solve my problems."

The national awards program is a cooperative effort between the FAA and the aviation industry. The awards

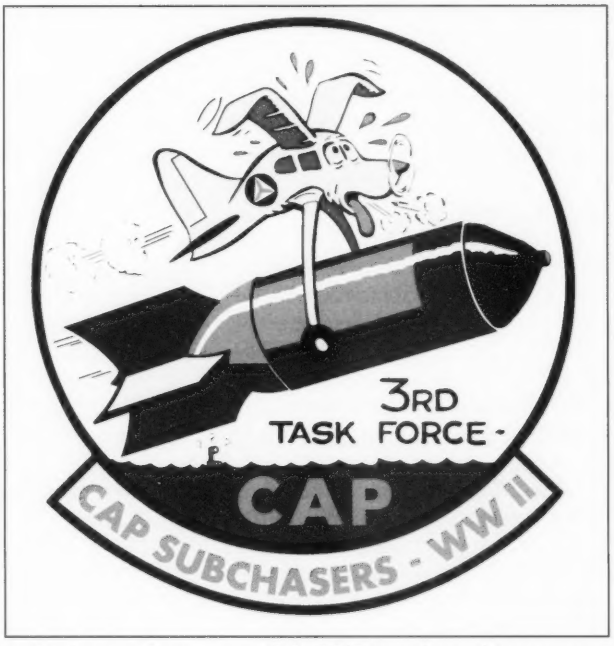
are presented annually to reward outstanding contributions to the aviation industry by the Certificated Flight Instructor, the Aviation Maintenance Technician, and the Avionics Technician in promoting safety and education. The winners are selected from FAA regional winners and are chosen by a national selection committee of aviation professionals. Nomination forms are available from your local FAA Aviation Safety Program Manager and need to be submitted by December 31, 2002, to be eligible for the 2003 awards.

CAP, 60 YEARS AND GOING STRONG

The Civil Air Patrol (CAP) was officially established as a volunteer civilian defense organization on December 1, 1941, just one week before Pearl Harbor. During the war, CAP became famous for its coastal patrol where over 100,000 civilian volunteers used their aircraft to spot enemy submarines along the Atlantic and Gulf coasts. Back then, the organization was composed of men too old for the Armed Forces, boys too young for it, women who wanted to serve our nation in a productive capacity, and thousands of others who later saw action in every branch of military service. CAP volunteer pilots flew more than 24 million miles over the Atlantic and Gulf coasts in single-engine aircraft to help win the battle against German U-boats that were preying on coastal shipping early in the war. Armed with bombs and depth charges, the CAP Coastal Patrol found 173 German subs, attacked 57, hit 10, and sank two. After the war, a German commander confirmed that U-boat operations were withdrawn from our coasts "because of those damned little red and yellow airplanes."

According to CAP National Commander, Brigadier General Richard Bowling, "It is the passion of Civil Air Patrol's Coastal Patrol and early pioneers that remains one of our driving forces today...The tragic events of 9/11 has brought us full circle as we again volunteer to guard our nation's homeland."

On March 2, a 60th Anniversary Gala was held at the National Air and Space Museum in Washington, DC, to honor and pay tribute to the seven surviving members of the World War II Coastal Patrol—the nation's very first homeland defense group.



GUST LOCKS SPECIAL AIRWORTHINESS BULLETIN

On March 11, the FAA issued Special Airworthiness Information Bulletin (SAIB No. CE-02-19) to provide owners and operators of various Raytheon (Beech) Aircraft Company propeller airplanes safety information regarding the usage of flight control gust locks. The FAA strongly recommends that all pilots review preflight inspection procedures and "Before Takeoff" procedures specified in the pertinent airplane flight manual, pilot operating handbook, checklists, markings, and placards. Furthermore, the FAA strongly recommends that only the proper gust lock be used. The locks provided by the manufacturer are compliant with Federal requirements to provide an unmistakable warning to the pilot when the lock is engaged. The SAIB contains a listing of these locks and the applicable model and serial numbers.

This SAIB was issued because of numerous incidents and fatal accidents resulting from pilots failing to remove the flight control gust lock before attempting takeoff. A review of the records from these accidents, dating back to 1975, has revealed that many of the accidents involved the use of a makeshift gust lock that was not the one provided by Raytheon (Beech). In some cases, a common bolt or nail had been inserted through the holes provided in the control column for this purpose. Such a device does not meet the requirements for flight control locks as defined in 14 CFR §23.679, which in part states: "If there is a device to lock the control system on the ground or water, (a) There must be means to- (1) Give unmistakable warning to the pilot when the lock is engaged..."

For anyone interested in SAIB's, Maintenance Alerts, or AD's on their aircraft, they can be found at the following FAA web site: <www.faa.gov/avr/afs/infoformechanics/index.htm>. Look under "Guidance and Regulations."

Editor's Runway

from the pen of Phyllis-Anne Duncan

SUMMER TIME, AND THE FLYING IS EASY

Well, maybe a little turbulent, but daylight savings time means more hours of flying—and…there's no icing. Summer time usually means an increase in flying activity and in other aspects of the things we enjoy about aviation. Air shows, for instance. The end of last year's air show season was deeply affected by the flight restrictions imposed for security reasons after September 11. (Another reason to really dislike Usama Bin Laden.) This season, however, the air shows which have already occurred have played to their usual record attendees. Preliminary (at the time I'm writing this) reports indicate that Sun 'n Fun figures are running the same as last Spring—no increase, but no decrease either. The themes of this season's shows are heavy on patriotism and symbolic of the American strength of will. The show, literally, had to go on, or the bad guys would have won.

Of course, convincing those with our national security at heart that air shows did not offer an opportunity for a security breach was difficult at times. A couple of issues ago I wrote about flight school security and not discouraging the child at the airport fence. That extends to the spectator area of an air show—or aviation event, in our bureaucratic parlance. The FAA does its bit for safety—checking the aircraft and the pilots, determining that the show can be conducted without risk to persons or property on the surface, watching to make certain that all participants follow the approved waiver for the event. The sponsors now, however, have an additional burden that we in the FAA have very little to do with, and that is meeting security concerns. Part of that might be not allowing spectators to carry backpacks or coolers to the event or any other item that could hide a weapon. It's an inconvenience, sure, but it is far from false security. In this day and age when a person can hide a bomb beneath his or her clothes, you can understand why leaving the cooler in the car is a necessity. Besides, if NASCAR fans can endure it, you can, too.

There was a dark time right after the attacks on September 11 where it looked as if general aviation, in particular, might not recover, but we've shown that we're strong and determined. We may have to do some things in different ways, but we're still here; and we can still fly. We also need to continue to improve our image with the non-flying public who might not quite grasp what "those little planes" are for. Air shows have always been one of our biggest attractions, and they are general aviation events. If the public sees that air shows consider the nation's security concerns, that goes a long way to convincing them that general aviation is a good thing and not the "ticking time bomb" as one Congressman stated. General aviation's safety record and the astounding displays we put on at air shows more than tip the scale in our favor against the potential use of general aviation as a terrorist's tool.

By the time you read this, I will have gone to my first fly-in/air show of the season, at Manassas Airport in Northern Virginia, and I hope to introduce a new friend to flying. He's the son of a friend of mine, and he'll be three months old at the time of the fly-in. (It never hurts to start them young.) But, then, that's what general aviation is all about, passing the love of flying to the next generation. Then, I'll probably end the summer by going once again to Oshkosh. One of the lucky privileges of my job is that in my 23 years with the FAA, I've been allowed to attend Oshkosh perhaps 20 of those years. Each time I find something new, something exciting, some reminder why all those years ago I looked skyward and saw my first airplane and knew in my gut I wanted to be in one of them in the air.

Air shows are also living history classes. Where else would you meet Chuck Yeager or Bob Hoover from one era and watch the sky dancing of Sean Tucker and Patty Wagstaff? Where else would you see one of the most positive aspects of our industry, the innovation and ingenuity of a beautifully assembled homebuilt? Where else would you get to see some of the military aviation hardware and the pilots who are protecting us? History books and pictures are one thing, but being able to go to a general aviation event and walk through or sit in or stand next to a vintage aircraft is beyond the reach of any classroom. I remember the first DC-3 I had the opportunity to do some right seat flying in. According to the history exhibit inside the aircraft, it had been used in World War II to drop supplies to the Third Army, 4th Armored Division during the Battle of the Bulge. I got a chill that the memory still evokes. Maybe that aircraft dropped much needed gasoline to my father, who as a tank commander in the 25th Mechanized Cavalry Reconnaissance, was part of that battle. How else would I have ever made that connection except at an air show? There was an example of aviation history affecting my life, as it has and will so many others.

So, this summer, the flying is easier than it was a few months ago. Support general aviation by flying safely and securely. And go to an air show.

'Til next time…

(And thanks to Associate Editor Dean Chamberlain for suggesting the theme of this column.)

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